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CONTENTS.

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

AN ADDRESS on International Organisation and Public Health. Read before the Society of Medical Officers of Health on Feb. 18th, 1921, by G. S. BUCHANAN, C.B., M.D. Lond., Senior Medical Officer, Ministry of Health 415

ORIGINAL ARTICLES.

The Cerebro-spinal Fluid in Disseminated Sclerosis. By DOUGLAS KINCHIN ADAMS, M.A., B.Sc., M.B., Ch.B. Glasg., F.R.F.P.S. Glasg., Assistant to Regius Professor of Medicine, Glasgow University; Physician to Out-patients Department, Western Infirmary; Visiting Physician, Bellahouston Hospital 420

Analysis of the Gastric Contents Obtained by the Fractional Method. By SYDNEY W. COLE, M.A. Cantab., and W. J. ADIE, M.B. Edin., M.R.C.P. Lond. (From the Pathological Institute, Charing Cross Hospital, and the Biochemical Laboratory, Cambridge.) Report to the Medical Research Council. —(*Illustrated*) 423

The Skin and its Reactions. By ARTHUR J. HALL, M.D. Camb., F.R.C.P. Lond., Professor of Medicine, University of Sheffield 426

Two Cases of Congenital Hypertrophic Pyloric Stenosis Saved by Early Operation. By W. G. MACDONALD, M.B., Ch.B. Glasg. 428

The Standardisation of Tuberculin. By A. J. EAGLETON, M.D. Lond. (From the Wellcome Physiological Research Laboratories.) — (*Illustrated*) 429

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A Probable Case of Cerebral Ventricular Hæmorrhage Associated with Marked and Persistent Convulsions. By E. J. PARRY, M.R.C.S., L.R.C.P. Lond., and O. K. WILLIAMSON, M.D. Cantab., F.R.C.P. Lond. 431

A Case of Diaphragmatic Hernia. By A. E. KEOWN, M.B. Belf. 431

Two Cases of Relapsing Fever. By ROBERT NIXON, M.B., Ch.B. Liverp.—(*Illustrated*) 432

MEDICAL SOCIETIES.

Medical Society of London ... 432
Royal Society of Medicine: Section of Pathology 435
Section of Anæsthetics 436
Society of Medical Officers of Health 437
Liverpool Medical Institution 439
Bristol Medico-Chirurgical Society 439

REVIEWS AND NOTICES OF BOOKS

Nouveau Traité de Médecine. Edited by G. H. Roger, F. Widal, and P. J. Teissier 440
The Care of Human Machinery. By R. M. Wilson, M.B., Ch.B. 440
Practical Medicine Series. Vol. III.: Eye, Ear, Nose and Throat Series 440
The Cerebro-spinal Fluid. By William Boyd 441
On Bone Formation. By Dr. Murk Jansen, O.B.E. 441
Organic Medicinal Chemicals, Synthetic and Natural. By M. Barrowcliff, M.B.E., F.I.C., and Francis H. Carr, C.B.E., F.I.C. 441
Einfaches Pharmakologisches Praktikum für Mediziner. Von R. Magnus 442
A Text-book of Pathology. Second edition. By W. G. McCallum 442
Aids to Pathology. Fourth edition. By Harry Campbell, M.D., B.S., F.R.C.P. 442
British Journal of Ophthalmology 442
Journal of Laryngology and Otology 442
Journal of the Royal Army Medical Corps 442

LEADING ARTICLES.

PRACTICE ABROAD 443
THE ÆTIOLOGY OF ENCEPHALITIS LETHARGICA 444
THE DENTISTS BILL 445

ANNOTATIONS.

The Collective Voice of Medicine 445
Treatment of Hypertrophied Tonsils with X Rays 446
The Picpus Quarter in Paris 446
Pseudo-Syringomyelia and Chronic Poliomyelitis 447
Marriage of Syphilitic Women 447
After-care in Tuberculosis 448
Acute Arthritis in Infants 448
The Spahlinger Serum 448
Fatal Hæmorrhage after Tonsillectomy 448
An Agreed Report on Venereal Disease 449
Biological Control of Drugs ... 449

SPECIAL ARTICLES.

Venereal Disease in the Far East 449
Medical Education in China .. 450
Medicine and the Law 451
Scotland 452
Ireland 453
Paris 453
Vienna 454

PUBLIC HEALTH.

Annual Reports of Medical Officers of Health 455
Urban Vital Statistics 456

OBITUARY.

William Odling, M.B. Lond., Senior F.R.C.P. Lond., Ph.D. Leyden, F.R.S., late Waynflete Professor of Chemistry, Oxford 456

CORRESPONDENCE.

Referred Pain (Sir Clifford Allbutt) 456
X Ray Treatment of Ringworm (Dr. Victor J. Blake) 457
The Fine Chemical Industry (Stafford Allen and Sons, Ltd., and Others) 457
The Operative Treatment of Prolapse (Mr. Arthur H. Burgess) 457
As Others See Us (Dr. Harry Roberts) 458
The Separation of Prescribing and Dispensing (Mr. J. O. Braithwaite) 459
Duration of the Ventricular Complex (Prof. L. S. Fridericia) 459
The Treatment of Diphtheria Carriers (Dr. A. G. B. Duncan) 459
Quinine Treatment of Malaria (Major-General Sir Patrick Hehir) 460

MEDICAL NEWS.

University of Cambridge: Diploma in Medical Radiology and Electrology 460
University of Bristol: Passlist 460
Royal College of Physicians of Edinburgh 460
London Hospital Medical College (University of London) 460
Medical Society of London 460
Royal Surgical Aid Society 432
Royal Portsmouth Hospital ... 427
Czecho-Slovak Medical Delegates at Brighton 431
London Hospital Medical Society 439
Ophthalmological Society of the United Kingdom: Annual Congress, 1921 439
Donations and Bequests 445
Manchester Royal Infirmary: X Ray and Electrical Department 449
City of London and East London Dispensary 453
Literary Intelligence 454
Royal Institution 460
Industrial Welfare Conference 460
Tuberculosis Society of Great Britain and Ireland 460
The Re-Education of the Disabled 460
Royal Statistical Society 460
Tavistock Clinic for Functional Nerve Cases 460
Federation of Medical and Allied Societies 460
League of Red Cross Societies 461
Royal Free Hospital: Professorial Unit 461
Aberdeen Royal Infirmary and Lunatic Asylum 461
Inter-Departmental Committee on Patents 461
Union of Medical Practitioners: Leicester Subdivision 461
Central Council for District Nursing in London 462
London School of Tropical Medicine: Research Expedition to British Guiana 462
Royal Medical Benevolent Fund 462
Psychological Medicine 462

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics: Medical Record Cards 463
House of Lords: Chinese Flour and Dermatitis 463
House of Commons: Pension Award Statistics.—Pension Scale for Limb Injuries.—Regulations under Dangerous Drugs Act.—Health Insurance Arrears.—Milk and Dairies Bill.—Dogs Protection Bill.—Medical Record Cards.—Maintenance of Patients in Mental Hospitals.—The Dentists Bill.—Import of Salicylic Acid.—Professional Secrecy 463

THE SERVICES.

Royal Naval Medical Service 467
Royal Army Medical Corps ... 467

NOTES, SHORT COMMENTS, &c.

Sir Astley Cooper 468
Colonial Health Reports 468
Excessive Moisture in Margarine 468
Post-war Incidence of Typhoid Fever 468

Communications received 462
Appointments, Vacancies 465
Births, Marriages, and Deaths 466
Medical Diary 466
Books, &c., received 467

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An Address
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INTERNATIONAL ORGANISATION AND PUBLIC HEALTH.

Read before the Society of Medical Officers of Health on Feb. 18th, 1921.

BY G. S. BUCHANAN, C.B., M.D. LOND.,
SENIOR MEDICAL OFFICER, MINISTRY OF HEALTH.

THE invitation of your President gives me the opportunity of drawing the attention of the society to some recent international arrangements for the promotion of public health, and in particular I have thought it would be of interest to say a few words about the International Health Organisation which will shortly come into being, as a result of a series of detailed resolutions which were passed by the Assembly of the League of Nations at Geneva in December. With the project envisaged by these resolutions I have personally been somewhat closely associated, as it was my privilege to be nominated by the Ministry of Health, on the recommendation of the chief medical officer, to be the technical adviser on this subject to the British delegation, and, what in this connexion was perhaps more important, to take part in the original international discussions which were initiated by Dr. Addison more than a year ago, when it became necessary to examine the position in regard to international health matters which had been created by the Treaty of Versailles.

THE LEAGUE OF NATIONS AND PUBLIC HEALTH.

It will be remembered that by the Covenant of the League of Nations, which forms an integral part of that Treaty, the members of the League undertake to take steps in matters of international concern for the prevention and control of disease. The League is also empowered to take over the direction of international bureaux established by general treaties, among which is included the existing Office International d'Hygiène Publique, which was established by the Convention of Rome, 1907.

These provisions undoubtedly form something of a land-mark in public health history by giving formal expression to the importance which health questions now assume in the practical affairs of the government of the nations of the world. They show, internationally, the effect of the same movements which in this country led to the central amalgamation of health services and the creation of a Minister of Health; which in France also have since led to the splitting off of public health administration from the other departmental matters which were overshadowing it at the Ministry of the Interior; which have resulted in the Ministries of Health which have been established in the new countries of Central Europe; and which have brought about also the remodelling and strengthening of central public health services which we are now witnessing in the United States and in our own Dominions. The Covenant wisely recognised that as nations thus increase and strengthen their internal health government, new points of contact, need for common action, and even risks of political differences must arise internationally. It was necessary that a league designed to secure comity among nations, and to prevent or resolve disputes, should bring public health questions within its range of activities.

The practical sanitarian, accustomed to look with small enthusiasm on the elaboration of schemes which appear far reaching only on paper, and with that mistrust of long views which is so useful in the pursuit of our calling, is perhaps likely to exhibit only a mild interest in the fact that the League of Nations, whose own future in many directions is uncertain, has taken to itself a wide outlook over technical matters—economics, finance, international transit, world conditions of labour, and the like—and has added public health to them. It is for him of greater interest to take the short view, and to ask first whether, as a practical matter, international official action can contribute anything worth having at the present time to public health that cannot be obtained as easily without it and then to inquire how, through the League of Nations or otherwise, it is proposed that this action should be taken. The manner of doing things, as he knows well, is often as least as important as the matter of them.

LIMITATIONS OF OFFICIAL INTERNATIONAL WORK.

To answer this question it may be useful to begin, and perhaps rather in a wholesale way, by a process of elimination. It must be remembered that the League of Nations represents associated Governments, and its activities depend first and last on the views and action of Governments, in other words, it is an official machinery if it is anything. For international cöoperation in health questions that do not require official or Government intervention and support a League of Nations machinery would offer little advantage. Accepting this, we can at once exclude from the question before us much that can in a general sense be termed international medical work. All medical science, in a sense, is international; it is as cosmopolitan as music. In medicine, least of all, do we want to ask, when we hear news of progress, whether or not it is "official." Jenner, Pasteur, Metchnikoff, Ehrlich—it is the man's work that leaps to the mind with names such as these, not their nationality. We do not need to set up an international bureau to tell us in all the official languages of discoveries and new knowledge given us by workers all over the world. Have we not enough—even more than enough—of abstracts and summaries and translations? There are special cases, to which I will refer shortly, where we can only get the information we require for public health work through Governments, but all will agree that our own journals, not forgetting the "Medical Science Abstracts and Reviews" of the Medical Research Council, which give them freely and in one tongue, amply suffice for all ordinary needs, while we have also all our medical societies—always on the look-out for information from other countries—and our international medical and sanitary congresses which are all the better for their voluntary character and independence.

International Medical Research.

So also with research. At the Assembly at Geneva much attention was given to an attractive proposal by the Argentine delegates that the League of Nations should promote medical research on a large scale by establishing and financing a large central research institution, and should take active part in the establishment of health laboratories all over the world for the investigation and prevention of disease. The project, had it been pressed and accepted in committee, would probably have been wrecked on the financial rocks; the budget and commitments of the League and its proposed technical organisations were being closely scrutinised. But it was at least debatable whether on its merits it would have been right to press it. Someone once proposed to give a great mansion and grounds for habitation by poets, where their products could be turned out under ideal conditions of comfort and in contact with other poetic minds. The true medical research worker would probably be as horrified at the prospect as the poet. Without shutting the door to future functions of an official international health office as a clearing-house for certain kinds of research work—a matter obviously to be considered—it cannot be maintained that nations wishing to progress in medical science would be doing their best by putting their men and money into any international forcing house for research. Both would be better employed at home. Moreover, the days of private support to public medicine are happily not over. The Rockefeller Foundation, with its world-wide humanitarian scope, gives us an example of a magnificent form of internationalism all the more effective by its freedom from official control.

International Red Cross Activities.

So again with the great humanitarian institutions. The benevolent in all civilised countries combined in

the interests of international public health. The various Red Cross organisations, now so much strengthened in authority and funds by the war, have united to form a common organisation—the League of Red Cross Societies—which is to work for health in time of peace, with the special function of educating and helping backward or poverty-stricken countries. These Red Cross activities received special recognition in the Covenant of the League of Nations, which requires the signatory countries to encourage them. I do not propose here to formulate the lines of demarkation which should be followed between this important voluntary body and an official health organisation of the League of Nations, especially as the matter has been recently and fully discussed by Sir G. Newman in his first annual report to the Ministry of Health. The various conferences on the subject have always led to the same conclusion—namely, that in practice the line should be easily drawn (the more so as the League of Red Cross Societies is itself established in Geneva); that not only should there be no reason for rivalry, but each should be strengthened by the other. It is the fact, I believe, that the League of Red Cross Societies has already found itself hampered by the absence of a health section at the League of Nations, and it is obvious that the latter, when established, will be much advantaged by what has already been accomplished and prepared by the Red Cross organisation. The situation, in fact, is one which is familiar to public health officers in every administrative area where voluntary work and expenditure of voluntary funds on health matters go on side by side with official work, and when ordinary tact and prudence are exercised harmony and mutual benefit are secured.

OBJECTS OF THE INTERNATIONAL HEALTH ORGANISATION OF THE LEAGUE.

If any further fears are entertained that those who have been concerned with this question have been carried away by unreasoning international idealism, or have bureaucratic designs to capture public medicine at large by some new international machinery, they will, I think, be sufficiently dispelled by a study of the objects which the proposed organisation is in fact required to fulfil. These objects are stated as follows in the resolutions of the Assembly; it will be seen that their terms are carefully guarded.

(*a*) To advise the League of Nations in matters affecting health.

(*b*) To bring administrative health authorities in different countries into closer relationship with each other.

(*c*) To organise means of more rapid interchange of information on matters where immediate precautions against disease may be required (e.g., epidemics) and to simplify methods for acting rapidly on such information where it affects more than one country.

(*d*) To furnish a ready organisation for securing or revising necessary international agreements for administrative action in matters of health, and more particularly for examining those subjects which it is proposed to bring before the Standing and General Committees, with a view to international conventions.

(*e*) In regard to measures for the protection of the worker against sickness, disease and injury arising out of his employment, which fall within the province of the International Labour Organisation, the International Health Organisation will cooperate with and assist the International Labour Organisation, it being understood that the International Labour Organisation will on its side act in consultation with the International Health Organisation in regard to all health matters.

(*f*) To confer and coöperate with international Red Cross societies and other similar societies under Article 25 of the Covenant.

(*g*) To advise, when requested, other voluntary organisations in health matters of international concern.

(*h*) To organise missions in connexion with matters of health at the request of the League of Nations and with the concurrence of the countries affected within the limits provided by Sub-paragraph (*a*) or by the International Convention of Rome (1907).

SOME QUESTIONS AWAITING INTERNATIONAL AGREEMENTS.

The way is now clearer to continue with the practical question which I have assumed to be put. The objects of the organisation have been settled and defined in the general terms which I have just read. Representatives of the public health departments of the civilised countries of the world will be collected together to pursue them. What is ready to their hand to begin upon? The material is really abundant, and none the less important because the subjects concerned are somewhat technical and unlikely to make much appeal to popular imagination.

New International Sanitary Conventions.

Let me illustrate this first by health questions connected with sea and land frontiers. The measures taken in regard to ships coming from infected ports have in this country a long history beginning with the now obsolete Quarantine Acts, going on to the International Sanitary Convention of 1903, with which our present practice conforms, and ending with the most recent International Sanitary Convention, that of 1912, the ratification of which was completed only a few months ago. One of the most creditable contributions of this country to the public health of the world resulted from the appreciation which was given in England at a very early stage to the fundamental principles which should govern the action taken by port authorities to prevent the introduction of diseases like cholera and plague, so as to combine a maximum of efficiency with a minimum of interference with traffic and commerce. The international adoption of these principles, though secured by international agreements, has, however, not seldom stopped at the signature of these agreements. Some countries have regarded sanitary conventions as merely giving minimum requirements, and in practice have superseded them by laws and regulations greatly in excess of the principles of the agreements to which they are signatory. Other countries, including certain of the British colonies, have stayed out of the Conventions and retained old-fashioned quarantine laws. All these Conventions depend in large measure on a system of formal notification to other countries of the first occurrence of plague or cholera in an affected country, but their requirement has often been defeated by the burden of its own formality. Under the Conventions the health department of one country does not notify the health department of another, but the information proceeds through diplomatic channels and Foreign Offices, for which, naturally enough, any report of plague or cholera carries with it visions of disaster, restrictions, reprisals, and other fantasies which attend the unknown, and thus leads, if not to suppression of facts, at least to delay and to studied ambiguity in their presentment which defeats the object of the notification. And perhaps the greatest difficulty with these Conventions—the observance of which is of such great importance to commerce as well as to health—is their absence of elasticity. The Convention of 1912, drawn up after long conferences and discussions, was ratified only last year. Though in many ways a satisfactory code and in advance of that of 1903, it is already in several respects out of date. In regard to plague precautions on ships it still treats human plague infection and not rat plague infection as the primary consideration; in regard to cholera, it gives no sufficient guide about the carrier; in regard to yellow fever, its requirements do not satisfy, and are not practised by, any of the countries in the yellow fever zone, and they are considered insufficient by India, which is now apprehensive of the introduction of this disease.

Meanwhile, there is an insistent demand, not only from our own administration, but from that of many other nations, for the establishment of international rules which should govern the handling of other infections, such as small-pox and typhus, not dealt with in the present Conventions. These are of daily importance, particularly in connexion with the migrations which are beginning, and likely to be continued, from the epidemic-stricken regions of Eastern Europe. The demand for revision here extends to the case of land frontiers, which hitherto have received scant consideration in international conventions. The division of large parts of Europe into new States, the probability that for many years to come small-pox, typhus, cholera, and other acute epidemics may progress westward

through the Continent, and particularly the unhappy experience already gained on the borders of Poland and Soviet Russia, make it essential on land frontiers that, on the one hand, strict measures should be taken for observation, detention, disinfection, and the like, applicable to persons of all nationalities, and on the other hand, that these measures, like those for shipping, should be so contrived as to produce the minimum of interference and annoyance in international traffic and commerce.

Now, in present circumstances, it is difficult for any busy public health officer to contemplate without dismay the prospect of a new and protracted official international conference to recast and reconsider all these questions in detail. Many new States will, for the first time, come into these deliberations; they cover a larger ground than before; and when a solution is ultimately arrived at there is a prospect that it can only be made effective by a repetition of the diplomatic procedure which delayed us for eight years after 1912; that the resulting document might once again be out of date by the time it is ratified; and that it would after all leave us as uncertain as before of the extent to which the Convention, when completed, was observed in practice by the signatory countries.

An official central health bureau, with international authority and adequate machinery, affords the most hopeful way out. It has already been proposed that the next International Sanitary Convention should be framed on broader and simpler lines, leaving details to be filled in by schedules and supplementary agreements. This is feasible if a standing expert authority has the duty of making adjustments as occasion requires to meet advances in knowledge and changes in the epidemic situation. In an International Health Organisation on which all the central health departments of the chief maritime States are represented, there should be no difficulty in designating the right men for this purpose and in securing international approval of necessary amendments without long delays and needless formalities. Such an organisation, moreover, could do much to secure that accurate information is obtained regarding the measures taken in each country to give effect to the agreements. The Geneva Resolutions, besides providing for this central body, lay down a new method for the conclusion of Conventions on health matters which, it may be hoped, will remove some of the obstacles met with hitherto. The efficacy of this method has still to be tested, but in any case the main cause of past delays, the fact that it has been nobody's business to see to progress, should now be removed.

Epidemic Intelligence.

Another matter requiring attention at the present time is the collection of intelligence regarding the progress and prevalence of principal epidemic diseases. At the Ministry of Health we find this essential not only for our own sanitary administration but also to meet, as we desire to do, the strongly expressed wishes of our self-governing Dominions for such systematic intelligence. Port medical officers of health who receive from the Ministry the weekly statements of epidemic diseases abroad, which have lately been much expanded and improved through the energy of my colleague Colonel S. P. James, will realise the duplications of labour which result from the present system; indeed its absurdity when it is remembered that other countries, like the United States, are laboriously and independently following the same method. At present we obtain a large amount of our information about epidemics by the coöperation of our Foreign Office and through the zeal of British consuls abroad. In existing conditions this is the only way, and is most helpful. But, after all, the consul, himself a layman, has to approach a foreign lay municipality for his facts, and at best can obtain them only for a limited area of the country. Other consuls at the same place are going through the same system of inquiry and cabling to their Governments. For some countries —China, for instance—no efficient substitute for consular information can be suggested. But for many nations it ought to be practicable to replace messages from British representatives in a few centres by a single communication sent to the Ministry of Health by the corresponding department of the foreign country. We are already in England able to give such information either to other countries or to a central office. The practicability of the establishment of a central epidemic intelligence centre in connexion with the new International Health Organisation needs to be studied in detail and as soon as possible. It would hasten more than any other measure the codification of epidemic intelligence in countries, like France, which have not yet developed notification as we know it over here. Given the necessary communications from the periphery, a central transmitting station such as the League of Nations is bound to possess, and the condensing resources of a code, it should not be difficult in a few words to signify each week to all the countries the main facts of each of the principal epidemics which require to be watched. Much less useful matter is daily transmitted all over the world by wireless. The expense should not be great and would be saved in other directions by every country concerned.

Health of Ships' Crews.

The hygiene of ships, so far as it affects that deserving but often hygienically neglected section of the population termed merchant seamen, is receiving attention on the international side from the International Labour Office, and is being brought into great prominence by seamen's labour organisations all over the world. Its settlement requires international action in which the best and most recent public health knowledge should be incorporated. The Geneva Resolutions establishing the International Health Organisation have now provided a means by which competent sanitarians can take their proper part in the international regulation of matters like ship ventilation, the construction of crews' quarters, their rations, facilities for cleansing, and the like. The subject bristles with difficulties, but also with great opportunities, and I may express the hope that when proposals on this matter are taking concrete form the British delegates may have the advantage of assistance from those medical officers of health of port sanitary authorities who have specially studied the hygiene of ships' crews.

Let me refer also to another international measure affecting merchant seamen—their treatment for venereal disease at seaports. This ground has been explored officially by the Ministry of Health, and unofficially by the National Council for Combating Venereal Diseases, and it is clear that international agreement is both desirable and practical to ensure that at any large seaport the sailor has access to modern methods of treatment, without charge or disability to himself, without reference to his nationality, and, if I may express a personal view, without cost or prejudice to the shipowner. This treatment should include in-patient treatment where necessary, and a standard form of record of his condition and treatment—forms of record really may have their uses—which he can take with him to the next port. Nothing approaching this system at present exists, but little consideration is necessary to realise the gain which might accrue from such an international undertaking. The practical difficulty hitherto has been that no one nation has been in position to press the matter strongly on other nations and remove the minor obstacles, still less to secure that the goodwill and assent of other countries, when obtained, is translated into appropriate action.

Anthrax: Rat Destruction.

I may refer to two or three other health questions which seem ripe for international agreement or study with a view to agreement, and where necessary should be taken up in consultation with the International Labour Office in the interest of the workers. One is anthrax, where at least two things are required: first, the general adoption of a system officially recognising that raw hides and wool have been disinfected by an approved process at the place of their collection or the port of despatch. This system, which would produce a great saving and greater efficiency, has been shown to be practicable by the work of Dr. T. M. Legge, Dr. F. W.

Eurich, and others in this country, and the minute attention given to the whole question by the Anthrax Committee and the Home Office. Secondly, there is real need for an understanding about the future of the important Japanese export trade in shaving brushes. As you are aware, the British Government has been obliged by the demonstrated danger of these brushes to prohibit their importation altogether. It is undesirable that we should have been forced to this procedure, especially as other countries have not taken corresponding action. The real remedy seems to lie in action in Japan to secure that the hair, usually imported from China, is efficiently cleansed and disinfected before it is made up, under supervision by Japanese bacteriologists in whom all the world can have confidence, officially arranged and guaranteed by the Japanese Government.

Then again, to revert to a subject which affects port sanitary authorities and shipping, is the subject of periodic destruction of rats on ships. There is no reason why a ship should not be overhauled to remove its rats every six months as a routine just as necessary as its repainting, or the overhaul of its boilers. Such a requirement, which would be greatly in the interests of shipowners as well as of health, could only be effected by international agreement, coupled with a system of intelligence at the central offices regarding the action to give effect to the requirements of that agreement.

International Vital Statistics.

There can be no doubt that the work of medical statisticians is greatly hampered by unnecessary differences which at present exist in methods of certifying and of recording deaths. I may draw attention in this connexion to a useful article on death certification contributed by Professor J. Glaister to the last number of the *Journal of Comparative Legislation*. When one remembers that the vital statistics of Switzerland, for example, are obtained by a system of confidential certification in which the medical cause of death is not stated to friends and relatives, one realises how large a discrepancy there may be in the comparison of the vital statistics of that country with others in respect, let us say, of alcoholism or syphilis. Then, again, the use by the certifying doctor of "primary" and "secondary" causes of death is a matter in which there are divergences so wide as to make vital statistics which are seemingly comparable really incompatible in actual fact. Even as between England and Scotland, as you are aware, there are a few differences of this kind—a death which is certified as due primarily to influenza and secondarily to pneumonia, will in England be ascribed to influenza and in Scotland to pneumonia. There must, of course, be substantial differences between countries in regard to the reliability of their death certificates and vital statistics, even between those which are most highly civilised; but at the same time a great many points of difference have only to be pointed out and discussed in order to be removed, with great advantage to comparative work. Some effective progress has already been made in this matter on the question of tabulation of causes of death under the headings of the International List, which is revised every 10 years. The Conference last year at Paris, which completed the most recent decennial revision, was at once an example of the praiseworthy desire of statisticians and registrars to obtain international accord in their "long" and "short" lists of cases of death, and a demonstration of the ineffectiveness of the arrangements which at present exist to bring about that accord in a satisfactory and convenient manner. Anyone who experienced, as I did, the difficulties of discussion of a large number of complicated details by 50 delegates of different nations, meeting on four consecutive days from early morning to late night, and trying to make progress without agreed rules of procedure, agenda, drafts, copyists, shorthand-writers, or interpreters, would not need to be convinced of the practical advantage of transferring such work to a centre where all these arrangements for international discussion are automatically and well supplied.

Exceptional Epidemic Conditions: the Typhus Commission.

Another important aspect of international official work lies in the direction of combining efforts to deal with exceptional epidemic conditions. This has already been illustrated in connexion with the advance of typhus and cholera from Russia into Eastern Europe. To check that advance, especially by dealing at the frontiers with the large numbers of refugees, prisoners of war, and the like, arriving from the East in mass along the principal railway lines, en route to all parts of Europe, is a matter which obviously concerns many Governments very vitally, apart altogether from the humanitarian aspect of the question, which may be considered to affect the whole world. A large amount of voluntary aid has been forthcoming or promised to deal with this situation, especially through the Red Cross agencies, but the conditions in Poland and the other border States has been such that it has been impossible for this voluntary action to be made effective without strong official international backing. Moreover, the resources of the charitable public in the United States and elsewhere have been insufficient to secure the necessary preventive measures on a sufficient and systematic scale. In these circumstances the League of Nations, as is well known, has made an effort to supply the need by appointing a special epidemic commission and obtaining funds for this work from a large number of the Governments represented in the League. Although these funds are not yet adequate for the purpose, they have even now been sufficient to enable a good start to be made in the most difficult and dangerous area, and the Typhus Commission, with general consent, is now able to attach to itself, or direct the use of, the important auxiliary services which the Red Cross bodies are able to bring in.

Occurrences of this kind are not likely to be numerous, as in all ordinary cases an epidemic-stricken country would take its own measures and be unwilling to call for, or to receive, international official help. When they do occur, however, as to-day in Eastern Europe, or as they may arise to-morrow, say, in the case of pneumonic plague in the East, it is evident that the League of Nations can only act effectively and quickly if it has behind it experts who can appreciate the situation and the needs of the case, and are in close touch with their Governments. The absence of a public health organisation in the present case has been one of the serious handicaps to the League in the prosecution of its campaign against typhus. It may be added that if the Treaty of Sèvres is ratified, still more if it is taken as a precedent for other treaties, the League of Nations will assume a very direct responsibility in regard to quarantine. Under that Treaty the League will be required to form a special committee to coördinate the practice of the different quarantine stations which deal with the Mecca pilgrimage.

THE MACHINERY OF THE INTERNATIONAL HEALTH ORGANISATION.

Leaving these questions of the work before the organisation, we may now consider the further practical question how such work is to be effected. It requires that a body of men should be got together at least once or twice a year from a large number of countries who are persons of some weight and authority in the public health work of their respective Governments and who, if they are not themselves expert in the particular technical question of the moment, will have been able to obtain or to bring the best technical assistance or advice on the subject. If we were on entirely new ground with no experience, it might be difficult to say that this is likely to be practicable. Fortunately, however, we have the necessary experience. Such meetings to a large extent already take place once if not twice a year at the Committee of the Office International d'Hygiène Publique in Paris, which is to form an integral part of the new organisation. This Committee is in one important respect wider than any body could be which only represents members of the League of Nations at the present time, as it includes the representative of the United States Public Health Service.

The Office International d'Hygiène Publique was established by the Convention of Rome of 1907 with a constitution which enables it, as a consultative body, to deal with most, if not all, of the subjects which I have mentioned above. The value of the past work of the Office International must not be belittled or overlooked. It is hardly as well known in this country as it should be. The Office has been a very bad advertiser, and, as its meeting place and offices are in Paris and its official language is French, it has been regarded here as perhaps too exclusively a Latin institution. The *procès verbaux* of its meetings are formidable official records which are seldom found outside Government offices, and its Monthly Bulletin—which is on sale, and incidentally, at the rate of exchange of to-day, represents a higher public health value than any other periodical known to me that is purchasable for 5*d*.—is largely concerned with official regulations, and its epidemic intelligence and excellent abstracts are apt to be a little out of date.

As regards its conferences, I can only speak personally regarding those held since the armistice under the able presidency of Monsieur Velghe, the principal officer of the Belgian Public Health Service. There can be no question of the great practical value of these meetings, which has been proved, especially in connexion with the information interchanged and collected regarding the influenza pandemic, the present prevalence of encephalitis lethargica, the practical measures adopted to deal with venereal disease in different countries, and other matters. At the recent sessions, moreover, since the question was raised of providing for international health work on a larger scale and with more important machinery and larger funds, the delegates to the Office International have most materially advanced the consideration of a number of international questions to which I have already alluded, in particular the revision of the sanitary conventions and the proposed agreement to deal with venereal disease at seaports. In general it may be said that the delegates are precisely the men who would be selected by their Governments to represent them on any important international health question involving official action. The British Empire representation has recently been a strong one, as we have been fortunate in including representatives who are either leading public health officers in their respective British countries or have recently held such appointments.

Continuance and Incorporation of the Office International d'Hygiène Publique.

All those who have had to consider the way in which the health obligations in the League of Nations Covenant should be met and the nature of the problems before us have agreed that continuity should be secured and that the League would benefit by the experience and personnel of the Office International. Moreover, the Covenant has made it impossible for the Office International to develop in any useful direction by continuing an independent existence. This view by general consent and goodwill has now been adopted in the resolutions of the Assembly. The International Health Organisation is to be based on the Office International, which will in future have additional representatives from certain countries, like Japan, which are members of the League, but have not previously sent delegates to the Office. The League of Nations system of General Assembly, Council, and Secretariat has, broadly speaking, been followed in the subsequent arrangements. The Committee of the Office International, enlarged as indicated, becomes the equivalent of the General Assembly of all the nations. In the capacity of the General Committee of the International Health Organisation, it will continue to meet in Paris once or twice a year and retain its offices there. Its work will be carried on under its former constitution with such modifications as may be necessary to fulfil its further duties of advising the League. It will, however, be provided with a Standing Committee, roughly analogous to the Council of the League, which can meet in the intervals of the general meetings, appoint subcommittees and arrange for expert inquiries; and it is to have a medical secretary and International Health Bureau at Geneva. The Assembly has allotted some £17,000 to the organisation for its first year, and it will continue to receive also the relatively small contributions from the signatory Governments which have hitherto supported the Office International.

Central Bureaucracy.

It may be noted with satisfaction that the official requirements for the working of the organisation laid down by the resolutions of the Assembly are, as international arrangements go, relatively simple. Much latitude has been given to the organisation to work out its own procedure as circumstances dictate. It is true that the system could have been very considerably simplified if we could have envisaged the appointment at Geneva of a superman for international health, possessing a large central office and staff, in position to prosecute inquiries in and demand information from the respective national health offices of the world, and to lay down international rules with which those national offices would comply. But no public health department in any country would be prepared to accept this dictation at the hands of any man, however distinguished. And if they were so prepared, no Government would be disposed to accept such a system. There were, indeed, many indications at Geneva of the intrinsic objection held by the representatives of the constituent nations of the League to any international procedure which suggested servitude to a central bureaucracy.

Common action among nations (for purposes such as we are considering) must depend upon the fullest discussion and consideration of the position of each country—even in such technical matters as quarantine laws, or death certification, or standards of ships' hygiene—and on willing agreement after such discussion. This means a slow rate of progress, of course, but it is necessary, and the originators of the health scheme have recognised it by making the meetings of representatives of all countries—i.e., the General Committee which continues the Office International d'Hygiène Publique—the real basis of the organisation; the new additions of standing committees and secretariat being the necessary auxiliaries to its efficient work. Any permanent headquarter officers who are appointed will need ability and experience in handling the subjects for inquiry and giving effect to the decision of the international representative body. But these after all are qualities exercised every day by medical officers in every important public health service, no more difficult or complicated than managing the health matters of a great municipality. They require good men, but not Napoleons.

THE OPPORTUNITY OF STATE PUBLIC HEALTH DEPARTMENTS.

It is permissible, I think, to conclude from this short survey that the International Health Organisation of the League of Nations will have before it on its formation a number of important practical matters of hygiene which are ripe for concerted government action, and call for an organised action by the official public health services of the civilised Governments of the world; that it will start on these subjects with the advantage of continuing the collaboration which has been obtained in the more limited sphere of the Office International d'Hygiène Publique under the Rome Convention of 1907, and of the preliminary work already done by that Office in several of the subjects awaiting settlement; and, finally, that the means and funds placed at the disposal of the organisation for meetings, inquiries, and draft agreements, promise to be satisfactory for the purpose.

I think this is quite enough to enable us to wish it a good start and every success on an admittedly difficult road, without prophesying for it a future extension in many other directions which can be suggested, or must even be anticipated, if the League of Nations increases its authority and influence, or if, whether through the League of Nations or in any other way, the countries of the world demand in future a much closer degree of international coöperation for objects such as public health. In any event the outlook for the organisation

will largely depend on the willingness of the public health services in the different countries to make use of the present opportunity, and the support which these services in so doing receive from their Governments. One satisfactory part of the scheme adopted by the Assembly should be noted. The League of Nations will have its budget control, a certain power of withholding sanction to action proposed by the organisation, the right of sanctioning appointments of paid officers and of receiving reports, but, apart from these, the general working of the organisation, the regulation of its internal affairs, and the appointment of staff is left entirely to the organisation itself—in other words, to the public health men themselves.

Here is the opportunity of the public health officers, and it is to be hoped that they will not only be willing to seize it—this may be taken for granted—but will find themselves in position to give necessary time and labour to ensure its success, and be supported in their respective countries by departments which realise that practical international action and agreement is a fundamental part of any good State public health policy. As regards countries within or associated with the British Empire we have every reason to anticipate that this support will be given, in the Dominions, India and Egypt, as well as at home.

As I have said so much about this new organisation, it is only fitting that I should conclude by reference to a few of those to whom the fact that it has now been established by resolution of the Assembly is mainly due. These preliminary steps have not been achieved without labour. Many of us have worked hard at the matter at the Ministry of Health, and much is due to our French colleagues, Mons. Brisac and Dr. Léon Bernard, to Dr. Lutrario (the chief of the public health service in Italy), to Dr. Hugh Cumming (now head of the United States Public Health Service), to the Japanese representation, and especially to the principal officers of the secretariat of the League of Nations and of the Office International d'Hygiène Publique—all of whom originally took part in working out the main lines in 1919 at the London Conference under the guidance of Lord Astor. At the Assembly itself the scheme was fortunate in having such able exponents as the Rt. Hon. G. L. Barnes, M.P., one of the delegates for Great Britain, and Mons. Gabriel Hanotaux for France; their statesmanship and industry piloted it past the not inconsiderable difficulties inherent in the first establishment of international technical organisations by the League, and in the official requirement that resolutions of the Assembly can only be obtained by a unanimous vote of all the nations represented.

THE CEREBRO-SPINAL FLUID IN DISSEMINATED SCLEROSIS.

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THE following is a résumé of a preliminary report to the Medical Research Council on work done in an experimental investigation into the ætiology of disseminated sclerosis. The first part only of the work is referred to in this paper; it consists of observations upon the cerebro-spinal fluid in this disease.

Method of Examination.

The method employed in the examination of the cerebro-spinal fluid was as follows:—

(1) *Cell count.*—A Fuchs-Rosenthal chamber was employed and the enumeration carried out immediately on the withdrawal of the cerebro-spinal fluid.

(2) *Test for protein content.*—This was carried out by the Ross-Jones method, for details of which the reader is referred to the literature on the subject.

(3) *Wassermann reactions* of the blood and cerebro-spinal fluid before and during treatment were carried out in Professor C. H. Browning's laboratory, Glasgow University, by his assistant, Dr. Ernest M. Dunlop.

(4) *Dark-ground illumination.*—In every case the cerebro-spinal fluid was centrifugalised and examined by this method.

(5) *Colloidal gold reaction.*—The work of Zsigmondv, who found that certain colloids exerted definite degrees of protective action on the precipitation of gold suspensions by sodium chloride, suggested to Lange the application of this test to the protein of cerebro-spinal fluid. He found that normal cerebro-spinal fluid when diluted with a 0·4 per cent. solution of sodium chloride does not affect the solution of colloidal gold, whilst the fluid in disease of the central nervous system often produces characteristic changes. In preparing the gold solution and in carrying out the test it was found that the precautions recommended by J. Cruickshank[1] to ensure absolute cleanliness were essential for success, and that disregard of these precautions was likely to entail failure.

The method of carrying out the test is as follows[1]:—

Eleven perfectly clean and dry test-tubes are placed in a rack. To the first 0·9 c.cm. of a 0·4 per cent. solution of sodium chloride is added, and to each of the others 0·5 c.cm. of the cerebro-spinal fluid is now added and shaken up. Of the resulting mixture 0·5 c.cm. is withdrawn and added to the next tube in the series. This in turn is shaken up and 0·5 c.cm. withdrawn and added to the next tube, and this process is repeated right down the series. This gives a dilution of cerebro-spinal fluid of 1:10, 1:20, 1:40, &c. To each tube 2·5 c.cm. of colloidal gold solution are added, and the colour changes, if any, are noted in an hour, and again in 24 hours. The colloidal gold must be neutral in reaction, perfectly clear by transmitted and by reflected light. In the flask it is a deep red colour. In a test-tube it appears pink. The final criterion of the suitability of a specimen of colloidal gold for testing cerebro-spinal fluid is: (*a*) That it should give a paretic reaction (vid. inf.) with the cerebro-spinal fluid from a case of general paralysis; (*b*) that it should show no change with a normal fluid; (*c*) that 5 c.cm. should be completely precipitated in one hour by 1·7 c.cm. of a 1 per cent. solution of sodium chloride; and (*d*) that it should be neutral to 1 per cent. alizarin red in 5 per cent. alcohol.[2 3 4]

Types of Reaction.

Various types of reaction may occur. These fall into three groups—viz., paretic, luetic, and meningitic. These names were employed before the test had been widely applied in diseases other than syphilis. They must be accepted as arbitrary terms and not necessarily carrying any ætiological significance as their name might imply.

(1) *Paretic type of reaction.*—Complete precipitation of gold occurs in the first 3-6 tubes on standing for 24 hours, and the remaining tubes down to the 8th show varying degrees of purple.

(2) *Luetic type of reaction.*—Varying degrees of purple are found from the 2nd to the 6th or 7th tubes, but complete precipitation does not occur.

(3) *Meningitic type of reaction.*—The colour changes occur further down in the series, tubes 7 and 8 being chiefly affected, the tubes to the left of the middle line usually remaining unaltered.

The different colour changes occurring in the individual tubes may be indicated by numbers, viz.:—

5 represents a tube in which complete coagulation and precipitation of gold has occurred, leaving the supernatant fluid quite colourless.
4 represents a greyish-blue colour.
3 ,, deep blue ,,
2 ,, reddish-purple ,,
1 ,, bluish-red ,,
0 ,, tube without colour change.

Examination of the Cerebro-spinal Fluid in Disseminated Sclerosis.

Forty-one cases of disseminated sclerosis were examined. All save two gave a luetic or paretic type of reaction to colloidal gold. It is interesting to note that these two cases had been clinically diagnosed as arterio-sclerosis simulating disseminated sclerosis, in one case by Professor T. K. Monro, in the other by myself. Five cases gave a paretic curve, the remainder produced a luetic reaction. The average cell count was five, the type of cell a small lymphocyte. In every case the cerebro-spinal fluid was centrifugalised and examined by dark-ground illumination. In two cases doubtful, actively motile spirochætes were observed. Attempts

to stain them were unsuccessful, and the result was accordingly regarded as negative. In all the other cases of this series dark-ground illumination yielded no result.

Protein content.—The Ross-Jones test was positive in 7 cases, or 17 per cent.

Wassermann reaction.—Positive in 9 cases. Positive in blood and cerebro-spinal fluid in 4 cases; positive in blood and negative in cerebro-spinal fluid in 2 cases; positive in cerebro-spinal fluid and negative in blood in 2 cases. In 1 case it was positive in cerebro-spinal fluid and the blood was not examined.

Diagnosis of Disseminated Sclerosis.

The recognition of this disease presents little difficulty if the diagnosis be limited to cases in which we can demonstrate spastic paraplegia, intention tremor, scanning speech, primary optic atrophy and nystagmus. By such a limitation, however, we would recognise only what is in reality the terminal stage of the disease, a stage which it has required months or years to reach and which possibly by no means all cases attain. Most clinicians would assent to a diagnosis of disseminated sclerosis in a case where all the above-mentioned signs were present with the exception of, say, optic atrophy or nystagmus. The question therefore arises as to how many and which of the cardinal signs are necessary to enable us to establish a diagnosis. Great stress has been laid by most writers on the extensor plantar reflex, but the only sign which I have found constantly present in the above series is the absence of the abdominal reflex, either unilaterally or bilaterally. It has therefore been considered advisable for the objects of this research to apply a provisional diagnosis of disseminated sclerosis to the following groups of cases:—

(1) Cases showing spastic paraplegia, absent abdominal reflexes, and one or more of the other classical signs of disseminated sclerosis. Thirty-three cases fall into this group.

(2) The primary lateral sclerosis or spastic paraplegia group with a negative Wassermann reaction, a positive colloidal gold reaction, absent abdominal reflexes, and the absence of any sign of other organic disease. Six cases fall into this group.

(3) Cases of spastic monoplegia giving a luetic curve to colloidal gold in the cerebro-spinal fluid, with a negative Wassermann reaction and no signs of other organic disease. Two cases in the series fall under this heading, and it is interesting to note that one of these was subsequently admitted with primary optic atrophy.

(4) Cases of primary optic atrophy with a negative Wassermann reaction in blood and cerebro-spinal fluid. Of these so far I have had no cases, but it is desired to emphasise the necessity of investigating carefully cases of so-called "idiopathic" optic atrophy. The colloidal gold reaction of such cases should be studied and the question of treatment carefully considered (vid. inf.).

Etiology of Disseminated Sclerosis.

Until quite recently nothing has been known of the ætiology of this disease, which has always been regarded as incurable and fatal.[5] The statement is made by most writers on the subject that disseminated sclerosis is not due to syphilis, though this is denied by Jacobsohn.[6] There is no doubt that the great weight of clinical evidence is against a syphilitic basis for the disease. The bulk of the cases of disseminated sclerosis appear to arise in young and otherwise healthy adults with no signs or history of specific infection, congenital or acquired. The occasional occurrence of a positive Wassermann reaction may possibly be due to coexistence of the two diseases.

There have recently been circumstantial claims by continental writers to have reproduced disseminated sclerosis experimentally, and to have demonstrated a spirochætosis in the inoculated animals (Kuhn and Steiner[7]), and Siemerling[8] has discovered spirochætes in the brain of a patient who had died of the disease. Still more recently G. Schuster[9] has found fine spirochætes in the lower layers of the cortex in a case of disseminated sclerosis. There are, in addition, certain clinical phenomena which appear to me to be of interest when considered in the light of a spirochætal origin of this disease. In both neuro-syphilis and disseminated sclerosis primary optic atrophy occurs, and though the type of lesion is different in the two diseases the site of selection of the virus is the same. In both diseases transient ocular palsies, as shown by a history of diplopia, occur. In tabes this frequently goes on to permanent external ocular palsy, a phenomenon rarer in disseminated sclerosis, but present in two cases of my series. Head and Fearnside,[10] in their research on syphilis of the nervous system, state:—

> "Of all the root areas which appear in syphilis those from the seventh thoracic to the first lumbar are the most frequent. These roots carry the afferent paths from the liver, kidney, suprarenal, and testicle, organs above all others liable to be crowded with spirochætes."

With reference to this fact I would desire to emphasise the constant absence of the abdominal reflex in disseminated sclerosis; this reflex arises from segments ninth thoracic to first lumbar.

In view of all these facts it would appear that the time has now arrived when spirochæticidal treatment should be given a fair trial in disseminated sclerosis, more especially as recent research has proved that organic arsenical preparations reach the cerebro-spinal fluid in fair concentration.[11] Salvarsan was empirically employed with success in rat-bite fever before the discovery of the causative leptospira.

The form of treatment adopted in this investigation was on modern antispecific lines, and was commenced in December, 1919. The treatment comprised routine intravenous administration of novarsenobillon extending up to 20 or more injections. This was combined with the oral administration of biniodide of mercury and more recently with intramuscular injections of intramine. Severe reactions were rarely noted. Hyoscine was used with beneficial results in cases where the tremors and general nervousness were marked.

Eighteen cases coming under Group 1 have undergone complete courses of treatment. Nine have shown no improvement whatever. In the other nine cases some definite improvement has been noted. Of these one case (vid. inf.) showed apparent recovery, but this may have been due to one of the natural remissions of the disease which render the study of disseminated sclerosis so baffling a problem. Decrease in the spasticity of the legs, regain of bladder control where this has been previously partially lost, and increase in muscular power were the points chiefly noted. In Group 2 three cases were treated and all appeared greatly to benefit. These cases on admission had markedly spastic gait and could walk only with the help of two sticks. On discharge they could walk without support and their gait was apparently normal. One case in Group 3 was treated and showed great improvement as regards spasticity, gait, and muscular power, accompanied by a slight gain in the circumference of the limb. Patients subsequently re-examined have frequently complained of symptoms similar to the phenomena of intermittent claudication. They state that they can walk easily a certain distance, but complain of weakness and spasticity of the legs coming on suddenly and preventing them from going further without rest.

Modifications of the Colloidal Gold Reaction.

In 16 cases under treatment repeated examinations have been made of the cerebro-spinal fluid. In all modifications of the colloidal gold reaction have been found to occur. These may be summarised as follows. A paretic curve becomes luetic under neosalvarsan administration. The discoloration in the tubes giving a luetic curve becomes fainter, and the number of tubes involved becomes progressively less. In one case a completely negative result was ultimately obtained. Two examples of actual readings are appended:—

(1) C. R. Colloidal gold reading before treatment...	5 5 4 4 3 2 1 0 0 0 0
19 injections of 0·45 gr. N.A.B. were given; final colloidal gold reading as follows	3 4 4 4 1 0 0 0 0 0 0
(2) J. McM. Colloidal gold reading before treatment...	2 2 3 3 2 1 0 0 0 0 0
15 injections of 0·45 gr. N.A.B. were given; final colloidal gold reading	0 1 2 1 0 0 0 0 0 0 0

It is of interest to note that in the course of this investigation similar modifications of the colloidal gold reaction have been observed in a large series of cases of neuro-syphilis under neosalvarsan treatment.

The case referred to above, in which apparent recovery resulted, is as follows.

G. H., aged 23. Pensioner.—Admitted 12/1/20, complaining of stiffness and weakness of legs of two and a half years' duration.

History of onset: In the summer of 1917 he was capsized in a whaler and immersed for 10 minutes in the sea in cold weather. A few weeks later he complained of stiffness and weakness of the right leg on route marching. His previous health had been uniformly good, and his family history contained no fact of note. He stated he had never suffered from venereal disease, was moderate in his consumption of tobacco, and an abstainer from alcohol.

Condition on admission: A well-developed, well-nourished man of 23. His chief complaint was weakness and stiffness of his legs.

Central nervous system: Legs markedly spastic with considerable muscular weakness. Knee-jerks: right +++, left ++. Tendo Achillis jerks both +. Patellar clonus marked on right, could not be elicited on left. Plantar reflex left flexor, right doubtfully extensor. Epigastric and superficial abdominal reflexes absent. Arms: muscular power apparently unimpaired; supinator jerks +, other tendon reflexes normal. Organic reflexes normal. Eyes: pupils equal and react to light and accommodation. Consensual reaction present. Marked lateral nystagmus easily elicited; rotatory nystagmus present to a lesser degree; vertical nystagmus not elicited. O.E. left disc: distinct pallor of temporal half of disc; veins congested. Right disc: slight pallor of temporal half; nasal and inferior margins blurred.

Speech: No alteration from normal noted. Intention tremor present in both arms. Special senses: smell, taste, and hearing normal. No history of memory defect or other mental symptom. Sensory neurone: slight impairment of superficial tactile sensation over scattered areas in right leg; tactile sensation otherwise apparently normal. Pain and temperature sense normal. Muscle-joint sense normal. Stereognostic sense normal.

Cerebro-spinal fluid on admission: Fluid clear. Pressure normal. Cell count = 9. Ross-Jones test negative. Alcohol faint haze. Wassermann reaction: blood negative; c.s.f. negative.

Colloidal gold reaction: 2 3 3 3 3 1 0 0 0 0 0.

Treatment was commenced in February, 1920, and carried out on routine antispecific lines. It comprised 12 intravenous injections of 0·45 gr. N.A.B. given in series of four doses at seven-day intervals, with a period of two weeks between each series. In addition, mercurial inunction was carried out.

Colloidal gold reaction of cerebro-spinal fluid after treatment:—31/7/20: 0 0 0 0 0 0 0 0 0 0 0. (This is the only case in which a completely negative result has been obtained.)

Subsequent history: Patient subsequently reported for examination on 5/1/21. There was great improvement in his condition. The muscle tone of the legs was apparently normal. The gait appeared normal, and he stated he could walk a distance of about one and a half miles and would then suddenly complain of symptoms of fatigue and be unable to proceed further. There was very slight lateral nystagmus seen only on extreme deviation to the left and confined chiefly to the left eye. A very slight tremor at the end of a voluntary act could be elicited in the right hand only. The left abdominal reflex was weakly present and easily exhausted. The right was absent. No clonus could be elicited. The plantar reflexes were indefinite.

His general improvement was such that his pension had been stopped, and he had for several months been earning his living by continuous employment as an oil refiner—his pre-war occupation.

The following case is also of considerable interest:—

W. B., aged 22, patient of Dr. T. D. Laird, was sent into hospital 12/3/20 as a case of diabetes mellitus. He stated that his illness commenced in July, 1918, when he complained of thirst, progressive loss of weight, and marked weakness of both legs.

On admission: General nutrition fair; urine contained 3·5 per cent. sugar, urinary output 130 oz. The ferric chloride reaction was negative.

Central nervous system: Both legs markedly spastic. Knee-jerks + +. Bilateral extensor plantar response. Abdominal reflexes absent.

Organic reflexes: Patient gave history of occasional retention and incontinence of urine; bowel sphincter normal.

Eyes: Pupils equal and react normally. No external ocular palsy. No history of diplopia. No nystagmus. Optic fundi: O.E. discs paler than normal, and lamina cribrosa unduly distinct. Speech and special senses normal. No intention tremor.

Cerebro spinal fluid: 31/3/20. Fluid clear, pressure +. Cell count = 2. Type of cell small lymphocytes. Ross-Jones, alcohol and Nonne Apelt tests negative. Wassermann reaction of cerebro-spinal fluid negative, of blood negative.

Colloidal gold reaction: 2 3 3 3 2 2 1 0 0 0 0 (luetic reaction).

Progress of case: Starvation diet for 24 hours produced a fall in the sugar percentage from 3·5 to 0·45, and a week later, after 24 hours' starvation, the urine gave a negative reaction for sugar. On normal ward diet the sugar percentage varied from 3·5 to 5. In view of the spastic paraplegia, absence of abdominal reflexes, sphincter involvement, and early optic atrophy, a provisional diagnosis of disseminated sclerosis involving the fourth ventricle was made, and the patient was treated by mercurial inunction and intravenous injections of novarsenobillon (20 in all) and Graham's diabetic diet.

Result: A gradual but almost uninterrupted recovery was made. The cerebro-spinal fluid was subsequently re-examined on two occasions. The average cell count was 1, the protein tests and Wassermann reaction remained negative. Slight modification of the colloidal gold reaction was observed. Prior to treatment tubes 1–7 showed colour alterations (vid. sup.). On the conclusion of treatment only tubes 1–5 showed a reaction and the colour alterations were less marked, the readings being as follows: 1 2 2 2 1 0 0 0 0 0.

Clinical result: The sugar completely disappeared from the urine. The legs became much less spastic and the muscular power improved. The plantar reflexes were no longer constantly extensor. The abdominal reflexes remained absent.

On discharge (30/11/20) the patient could walk with an apparently normal gait without the help of a stick, and the urine had been free from sugar for over a month. I was subsequently informed (8/1/21) by Dr. Laird that the urine was still constantly free from sugar, and the patient stated that he was enjoying a practically normal diet and appeared to have regained his health.

Summary and Conclusion.

(1) The cerebro-spinal fluid picture in disseminated sclerosis is as follows: a normal cell count, a negative Wassermann reaction, a luetic or paretic reaction to colloidal gold, and in most cases (83 per cent.) a normal protein content.

(2) The absence of a positive Wassermann reaction in the great majority of cases and the absence of pleocytosis are in accordance with the view that this disease is not of syphilitic origin.

(3) On the supposition that the origin might be spirochætal treatment was carried out by spirochæticidal drugs. In practically every case under treatment modifications towards a negative result of the colloidal gold reaction were noted.

(4) As regards clinical effects of such treatment, no improvement resulted in advanced cases of the disease, but prolonged treatment produced amelioration of early cases, and in one or two instances the results were marked.

(5) With reference to early diagnosis, emphasis is laid on the evidence of the cerebro-spinal fluid picture and the absence of the abdominal reflex.

I am indebted to the Medical Research Council for defrayment of the expenses of this investigation. I also desire to express my thanks to Dr. Wilfrid H. Scott for help in connexion with the clinical work, and to Mr. J. A. W. McCluskie for assistance in the colloidal gold technique.

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ROYAL SURGICAL AID SOCIETY.—At the meeting of the committee held on Feb. 15th Mr. Samuel Watson, who has just retired from the offices of treasurer and chairman of committee, was presented with an illuminated address, recognising his services to the society. He has served it for 51 years, having joined first as a member of the committee in 1869, becoming a trustee in 1895, and having been chairman and treasurer since 1902.

ANALYSIS OF THE GASTRIC CONTENTS

OBTAINED BY THE FRACTIONAL METHOD.

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REPORT TO THE MEDICAL RESEARCH COUNCIL.

THE secretory and motor activities of the stomach are now being studied by a considerable number of investigators stimulated by the possibilities of the "fractional method" introduced by Rehfuss and Hawk.[1] It is desirable that the results obtained by different workers should be capable of interpretation by others in the light of their own findings. With the large number of methods of analysis available it is unfortunate that a standard technique has not yet been uniformly adopted. The purpose of this paper is to suggest simple yet accurate methods of analysis and to invite criticisms and suggestions from other workers in order to secure uniformity of analysis and expression of results.

The following points are discussed below: (1) the nature of the meal; (2) the method of expressing results; (3) the determination of "free" acidity; (4) the determination of "total" acidity; (5) the determination of total and mineral chlorides, and thus of the active and combined hydrochloric acid; (6) the determination of the enzymes present.

Nature of the Meal.

The end-points of the titrations are much sharper if a *colourless* filtrate can be obtained. For this reason in particular we urge the adoption of the oatmeal test breakfast as a standard. It is readily prepared according to the method suggested by J. A. Ryle[2]:—

"Mix two tablespoonsful of breakfast oatmeal with one quart of water. Boil slowly down to one pint. Strain through muslin. Add salt to taste and give warm."

We do not recommend the addition of the salt, as the content of sodium chloride may well prove to be of great importance in connexion with the diagnosis of carcinoma. It is our custom to get the patient to swallow the tube ten minutes before taking the meal. This allows time for the subject to recover his composure. The amount withdrawn need not exceed 7 to 10 c.cm. at each interval, but it is advisable to withdraw 12 to 15 c.cm. at the end of the first hour if an estimation of total and mineral chlorides be desired. The best filter paper in our experience is Whatman's No. 1, 9 cm. diameter. Notes should be made as to the presence of blood, mucus, and bile.

Method of Expressing Results.

The usual method of expressing these in terms of c.cm. of 0·1 normal per cent. is most convenient, and, in our opinion, should be extended to the analysis of total and mineral chlorides as well as to those of free and total acid.

Determination of "Free" Acidity.

The first point to consider in this connexion is what we mean by "free hydrochloric acid." It is usually regarded as that part of the hydrochloric acid which is not combined with protein or any other potential base, and which is ionised to the same extent as it would be in simple aqueous solution; that is to say, that if we have "free" HCl present in gastric juice to the extent of 40 c.cm. of 0·1 N. HCl per cent., then by diluting 40 c.cm. of 0·1 N. HCl to 100 c.cm. with distilled water we shall obtain a solution of the same hydrogen-ion concentration as that of the gastric juice. If that is so, then the problem of the estimation of the free HCl of a specimen is practically the same as that of the determination of its hydrogen-ion concentration. For the effect of organic acids and of hydrochloric acid combined with protein on the hydrogen-ion concentration of the solution when the acidity is at all high is practically negligible.

It is probable that the usual method of determining "free" acidity is to add Töpfer's indicator (dimethylaminoazobenzene) to a measured sample and to titrate with standard (0·1 N.) soda until the pink tint disappears. It is then assumed that the soda added has only neutralised the "free" acid, and does not react with organic acids or with combined hydrochloric acid. This assumption is quite unwarranted. Töpfer's indicator changes from a pink to a yellow between the ranges of pH = 2·9 to pH = 4·0, and it is probable that most workers add soda until the reaction is about pH = 3·3, corresponding to a hydrogen-ion concentration of $5 \cdot 10^{-4}$.

Now suppose we are titrating a fluid from the stomach which actually has 50 c.cm. per cent. of free 0·1 N. HCl and which also contains a certain amount of hydrochloric combined with the peptones. If our definition is correct, the hydrogen-ion concentration will be the same as that of a simple solution of 50 c.cm. of 0·1 N. HCl in 100 c.cm.—i.e., the pH is about 1·33. If the gastric fluid be titrated with soda this does actually combine with the free hydrochloric acid until a point is reached when there is about 10 c.cm. of 0·1 N. free HCl present in 100 c.cm. of the mixture and the pH is about 2. But from this point onwards in the titration anomalous results are obtained. The power of the protein to combine with hydrochloric acid decreases as the hydrogen-ion concentration is lessened and we approach nearer to the iso-electric point of the protein. This naturally varies with the nature of the meal, the activity of the pepsin, and the duration of digestion, but is probably between pH = 4 and pH = 6. Also the mass of the free hydrochloric is now relatively small compared to that of the combined hydrochloric acid, so that from pH = 2 onwards the soda added partially neutralises the free HCl and partially the combined HCl. It follows that the result of titrating to Töpfer's indicator is a very imperfect guide of the actual amount of free HCl originally present. The higher the concentration of peptone the greater is the error, which may be as great as 40 per cent.

Günzberg's method of titrating with soda or by diluting with water until a reaction with a mixture of phloroglucin and vanillin is not obtained does seem to give very reliable results, but the method is tedious and difficult to apply when only about 2 c.cm. of the fluid can be spared for the analysis. The best indicator for the purpose is undoubtedly thymolsulphone-phthalein ("thymol-blue"), which was introduced by W. M. Clark and H. A. Lubs.[3] This has a double range. From pH. 1·2 to 2·8 it changes from red to yellow; it remains yellow from pH. 2·8 to 8·0 and from pH. 8·0 to 9·6 it changes from a green to a deep blue. Its great advantage is that it can be used with the same sample of gastric juice, first for the titration of free hydrochloric acid and then, by adding alkali until it goes blue, for the determination of total acidity. Clark and Lubs mention its applicability to stomach contents, but the method of using it was, we believe, first described by one of us.[4] The method recommended then was to titrate to pH. = 2·6, against a standard phthalate buffer solution, using the comparator described by S. W. Cole and H. Onslow.[5] This method has been used regularly by the students at the Biochemical Laboratory, Cambridge, during the past year, and by us in our earlier investigations of clinical material at Charing Cross Hospital.

A method involving the use of the same indicator was described last May by A. T. Shohl and J. H. King.[6] They determine the hydrogen-ion concentration by the colorimetric method against a series of solutions of known pH. These are prepared from 0·1 N. HCl and 0·1 N. KCl, according to the directions of Clark and Lubs.[3] From the pH thus found, the normality of the free hydrochloric acid present can be ascertained and so the number of c.cm. of 0·1 N. HCl per cent.

Our objections to the method are that it is not sufficiently accurate. The sensitivity of the indicator is by no means constant over the whole range. At pH = 1·4 the change in tint corresponding to a change of 0·1 pH is by no means easy to see, and yet this corresponds to a difference of about 10 c.cm. of 0·1 N. NaOH per cent. It is true that they recommend dilution with an equal volume of water if the sample be more acid than pH = 1·6, but by this procedure the probable error is multiplied by 2 or even by 4 and is still too large. Further, the effect of such a dilution on the electrolytical and hydrolytical dissociation of combined hydrochloric acid is, at present, largely a matter of conjecture. At the same time, we are of the opinion that the method is workable, and if dilution be made to the most sensitive point of the indicator good results are obtained.

As stated above, we originally titrated the gastric contents to a reaction of pH = 2·6, using thymol-blue as the indicator and marking the end-point by comparison with the colour of a phthalate – HCl buffer mixture of pH = 2·6 similarly treated with thymol-blue. The results obtained on mixtures of commercial peptone and hydrochloric acid when compared with those obtained by Günzberg's method were so close that we seemed justified in using it. We now

find that the agreement was more or less accidental. We were using a very low content of peptone (0·2 per cent.) and titrating with a very dilute soda (0·03 N.). We failed to appreciate the significance of the considerable increase in volume of fluid, and made no allowance for it in our calculation. When the percentage of peptone is increased to what is normally found in the stomach contents the error is appreciable and is always such that the amount of free HCl apparently found by titration to pH = 2·6 is greater than that found by Günzberg's method.

The result of titrating mixtures of peptone and hydrochloric acid by different methods is presented in the table, which is only one from a series of similar experiments. In the case of the thymol-blue titrations 5 c.cm. of the various mixtures were treated with thymol-blue and titrated with 0·1 N. soda containing thymol-blue and prepared according to the directions given below. This was added until the tint of the mixture was judged to be the same as that of a solution of hydrochloric acid of known strength, also containing the same proportion of the indicator. The calculation of results is as follows: suppose 5 c.cm. of the mixture require x c.cm. of the 0·1 N. soda to bring the reaction to that of 0·01 N. HCl. Then 100 c.cm. would require 20 x c.cm. of 0·1 N. soda. The total volume is (100 + 20 x) c.cm., and since 100 c.cm. of 0·01 N. HCl requires 10 c.cm. of 0·1 N. soda to neutralise it then (100 + 20 x) c.cm. requires 10 + 2 x c.cm. of soda. So the total amount of 0·1 N. soda required for 100 c.cm. of the original solution is 10 + 22 x c.cm. and the free HCl is expressed as (10 + 22 x) c.cm. of 0·1 N. HCl per cent. Similar calculations hold good for other end points in this series. The figures under "Günzberg" and "Töpfer" were obtained by the usual technique of titration with 0·1 N. soda. "Total" acidity was obtained by titration with 0·1 N. soda containing thymol-blue, as described below:—

It will be seen that the results of the thymol-blue titrations are fairly constant until pH = 2 is reached, but that further additions of soda are no measure of the amount of free HCl present, especially in the presence of any considerable amount of peptone. Töpfer's method is seen to give much too high a figure, the error being 11 per cent. in the presence of 0·2 per cent. peptone and 55 per cent. in the presence of 0·8 per cent. peptone. Günzberg's method gives astonishingly good results, which is in agreement with those who have compared it with the electrical method. Why this should be so is not very clear. Probably the increased concentration of peptones, &c., that takes place on evaporation with the reagent results in more of the HCl binding with the protein. So that a solution which in the cold has a hydrogen-ion concentration higher than that required for a positive reaction fails to give the test on evaporation.

The technique we have finally adopted is to treat 2 c.cm. of the clear filtrate with thymol-blue, and to titrate it with 0·1 N. soda containing thymol-blue from a microburette until the colour is the same as that of one of a series of standard solutions of hydrochloric acid which have been treated with the same proportion of the indicator. Knowing the volume of soda that has been used to bring the reaction to a given point, the original concentration of free acid is determined by calculation or from a curve. The end-points we have chosen are those of 0·012, 0·011, 0·010, and 0·009 N. HCl. These are selected from the fact that the indicator is very sensitive over this range, and that by titrating up to this point one gets a real measure of the free hydrochloric acid. Should the concentration of free HCl be less than 9 c.cm. of 0·1 N. per cent., subsidiary standards are readily prepared by dilution of those ready to hand. A further advantage of the method is that the same sample is subsequently titrated with the same soda for the estimation of total acidity.

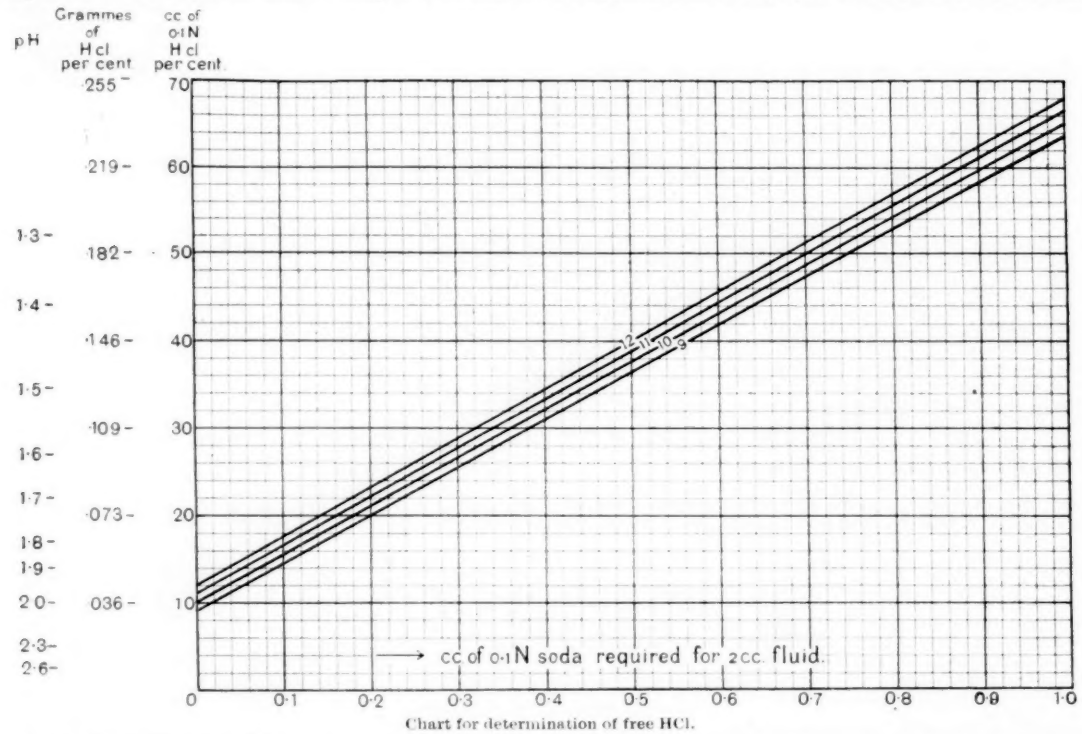

Chart for determination of free HCl.

End-point of titration in c.cm. of 0·1 N. HCl per cent.	Thymol-blue.							Günzberg.	Töpfer.	Total acidity.
	30	25	20	15	10	5	2·5			
Corresponding pH ...	1·56	1·64	1·74	1·86	2·0	2·3	2·6	—	—	—
50 c.cm. 0·1 N. HCl—										
+ 50 c.cm. of water ...	51	50	51	50	50	50	50	51	50	52
+ 50 c.cm. 0·4 peptone	46·5	47·5	46·5	45	44	45	45·5	44	49	53
+ 50 c.cm. 0·8 ,,	38	39	38·5	40	38·5	40·5	42·5	38	47·2	55
+ 50 c.cm. 1·2 ,,	32	32	31	32	32	34·5	37	32	44·6	58
+ 50 c.cm. 1·6 ,,	—	—	25	27	27·5	30	34	27	42	60

Solutions and Apparatus Required.

(1) *Four Standard Acids*, 0·012 to 0·009 N. Measure 12, 11, 10 and 9 c.cm. respectively of 0·1 N. HCl into four labelled 100 c.cm. measuring flasks. Make the volumes up to the marks with distilled water and mix well.

(2) *Thymol-blue*, 0·1 per cent. aqueous solution. A stock 1·2 per cent. solution of the mono-sodium salt can be purchased. 10 c.cm. of this are diluted with 100 c.cm. of

distilled water and the colour noted. It should be a reddish orange. If it is blue, decinormal sulphuric acid should be cautiously added until the desired tint is obtained, and the volume then made up to 120 c.cm. The diluted solution is conveniently kept in a bottle fitted with a rubber cork through which passes a Dreyer's dropping pipette which is fitted with a rubber teat. In measuring the indicator it is essential to hold the pipette strictly vertical, and not to allow the drops to fall more rapidly than one per second.

(3) *Decinormal Soda containing Thymol-blue.*—For the estimation of total acidity it is desirable to work with CO_2-free soda, which can be prepared according to the directions of Clark and Lubs.[3] A full account will be found in S. W. Cole's "Practical Physiological Chemistry."[7] If this is not available ordinary standard soda can be used. It is perfectly satisfactory for free HCl, but gives a rather evanescent end-point for total acidity. A stock solution of 0·2 N. is most convenient. Measure 25 c.cm. of this into a stoppered 50 c.cm. volumetric flask, add 50 drops of the 0·1 per cent. thymol-blue, and make up to the mark with cold, recently boiled, distilled water. Mix thoroughly and store in a dark cool cupboard when not in use.

(4) *A 2 c.cm. microburette* that is filled by suction has been designed by one of us (S. W. C.) and can be obtained from Messrs. Baird and Tatlock.

(5) *Test-tubes of the Same Internal Diameter.*—We use tubes 5 × ⅝ in., which are calibrated by noting the level reached after the addition of 10 c.cm. of water.

Method: Measure 3 c.cm. of the standard acids into four of the tubes, labelled 12, 11, 10, and 9 respectively. To each add three drops of the thymol-blue. Measure 2 c.cm. of the clear filtered gastric contents into another tube by means of an Ostwald pipette. Add two drops of the indicator. If any appreciable amount of free HCl is present a bright carmine colour is obtained. Titrate with the 0·1 N. NaOH until the colour is very slightly lighter than the "12" acid. Match the colour exactly with one of the remaining tubes, adding a trace more of the soda if necessary.

Calculation.—If x c.cm. be the volume of 0·1 N. soda required, the free HCl in c.cm. of 0·1 N. acid per cent. is 56 x + 12, 55·5 x + 11, 55 x + 10, and 54·5 x + 9 for the 12, 11, 10, and 9 tubes respectively.

These volumes are most conveniently read from the chart here given, which also shows the pH of the solution and the HCl in grammes per cent.

Should the free HCl be between 9 and 2·5 of 0·1 N. per cent., the amount is best found by diluting the standard acids with water, adding one drop of thymol-blue per c.cm. until the tint of the diluted acid is the same as that of the sample. The c.cm. of 0·1 N. acid per cent. is then readily determined by a simple calculation. Thus, if 3 c.cm. of the "9" acid + 2 c.cm. of distilled water matches the sample, then the acidity is 3·5 x 9 = 5·4.

Determination of "Total" Acidity.

The same 2 c.cm. sample of gastric fluid used for the estimation of free HCl is titrated with the 0·1 N. soda till the mixture turns blue. To obtain uniformity of results we titrate to a reaction of pH = 8·8. This can be prepared according to the directions of Clark and Lubs,[3] or can be purchased from Messrs. Baird and Tatlock or other agents. 3 c.cm. of this are measured into a tube similar to those previously used, and three drops of the indicator are added. The gastric fluid is then titrated with the 0·1 N. NaOH containing thymol-blue until the colour matches that of the standard. If the standard of pH = 8·8 is not available, the mixture should be titrated to a full blue. The calculation is obvious; the total volume of 0·1 N. soda used for the two titrations multiplied by 50 is the total acidity in terms of c.cm. of 0·1 N. acid per cent.

Determination of Total and Mineral Chlorides.

In the light of the work of G. Graham[9] the estimation of the ratio between active and mineral chlorides is of considerable importance in the diagnosis of carcinoma of the stomach. The time and attention required for the analysis is so great that it is not usually possible to attempt it on more than one or two fractions. As mentioned above, we usually withdraw rather more fluid at the 1 hour and 1¼ hour periods to give us a sufficient amount of material for analysis. The technique best adapted to the purpose is a modification of F. C. McLean and D. van Slyke's method,[10] for which the following reagents are required:—

(1) Standard silver nitrate 0·04 N. Dissolve 6·8 g. of pure fused silver nitrate in about 650 c.cm. of distilled water. Add 250 c.cm. of pure concentrated nitric acid (sp. gr. 1·42). Allow to stand for some time and then make the volume up to exactly one litre with distilled water—

1 c.cm. = 0·0046 g. HCl.

(2) Sodium citrate and nitrite mixture.

Crystalline sodium citrate ($Na_3C_6H_5O_7 + 5\frac{1}{2} H_2O$)	446 g.
Sodium nitrite	20 g.
Distilled water to make	1000 c.cm.

It is essential that the reagents be quite free from chlorides. We have obtained a few satisfactory samples of citrate, but the majority have to be recrystallised once or twice. The mixture is made by adding the solids to about 500 c.cm. of distilled water, dissolving by heating on the water-bath and making up to 1000 c.cm. with distilled water after cooling.

(3) Soluble starch 2 per cent. To 90 c.cm. of boiling distilled water add 2 g. of the starch suspended in 10 c.cm. of cold water. Stir and boil. Transfer to test-tubes, plug with cotton wool, and sterilise for 10 minutes in the steamer. A supply of the starch in good condition is thus always ready for use.

(4) A standardised solution of potassium iodide 0·02 N. Dissolve 3 g. of pure potassium iodide in distilled water and make the volume up to 1 litre. Mix thoroughly. Standardise this as follows. Measure 10 c.cm. of the silver solution into a small flask. Add 10 c.cm. of the citrate mixture and about 1 c.cm. of the soluble starch. Titrate with the iodide from a burette until a blue tint is obtained. With good quality reagents the end point is sharp to a single small drop, but a little experience is necessary to recognise it. The iodide has to be adjusted by dilution with water until 2 c.cm. of it correspond to 1 c.cm. of the silver. If x c.cm. are required for 10 c.cm. of silver add 5 (20−x) c.cm. of water to every 100 c.cm. of the remainder.

Method for Mineral Chlorides.—Measure 2 c.cm. of the clear filtrate into a small, flat-bottomed, lipped silica crucible. Evaporate to complete dryness on a boiling water bath. Ignite over a Bunsen burner to a dull-red heat. Allow to cool, add about 10 c.cm. of distilled water, and cautiously heat to nearly boiling point by means of a small flame (micro-burner). Allow to cool. Rub up well with a small glass rod and transfer to a 50 c.cm. measuring flask. Extract twice more with successive portions of 10 c.cm. each of cold water. Add 5 c.cm. of the silver nitrate, make up to the mark with distilled water, and mix thoroughly. Filter through a dry 9 cm. No. 1 Whatman paper into a clean dry flask or boiling tube. Should the first portions of the filtrate come through cloudy they must be re-filtered. Measure 25 c.cm. of the clear filtrate into a small Erlenmayer flask, add 2·5 c.cm. of the citrate and 3 or 4 drops of the starch. Titrate with the iodide from a 5 c.cm. micro-burette until the first blue tint is obtained.

Method for Total Chlorides.—This is exactly the same as the above, but before starting the evaporation about 0·4 c.cm. of a saturated (20 per cent.) solution of sodium carbonate is added. If there is not enough filtrate available the 2 c.cm. that have been used for the estimation of total acidity can be taken, the tube being carefully washed out with small amounts of distilled water. In this latter case there is no necessity to add more than a single drop of the sodium carbonate.

Calculation of Results.—(5 − volume of iodide used) x 20 = c.cm. of 0·1 N. chloride per cent. Total chlorides less mineral chlorides gives the "active HCl" or "secreted chloride." This should correspond fairly closely with the total acidity, the latter being considerably greater in cases of hypoacidity where organic acids have been formed by fermentation. In a few cases the active HCl works out to be greater than the total acidity. This is probably due to the presence of a certain amount of ammonia, which volatilises away as ammonium chloride during the incineration of the residue for mineral chlorides. The mineral chlorides being thus too low, it follows that active HCl is too high. But in our experience this is a relatively rare event. Yet Schryver and Singer[12] only found the total acidity higher than the active HCl in 34 per cent. of their 125 cases.

According to Graham,[9] the ratio $\frac{\text{active HCl x 100}}{\text{mineral chlorides}}$ is very low in carcinoma and very high in gastric ulcer. As far as we have gone at present we are in complete agreement with him. It is obviously useless to take this ratio if there is any indication of a previous flow of alkaline material from the duodenum, or if the resting residuum of the stomach has not been removed before giving the meal.

Determination of the Enzymes Present.

In the present state of our knowledge it is probable that an estimation of pepsin is only of value in enabling us to distinguish between true achylia and the achlorhydria that may be seen in some cases of carcinoma. In true achylia the enzymes are absent,

but in the few cases of gastric carcinoma in which we have found achlorhydria we have also found pepsin and rennin. Opinions as to the identity of gastric rennin are by no means unanimous, but it is our firm conviction that a milk-clotting enzyme distinguishable from pepsin is secreted by the adult human stomach. The evidence on which this opinion is based rests on the work described in Cole's "Practical Physiological Chemistry," sixth edition, p. 209. We are making a careful study of the stability and action of the enzymes and hope to publish the results in a later communication.

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THE SKIN AND ITS REACTIONS.[1]

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THE skin differs from all other organs in that it is on the surface of the body. This position necessarily carries with it certain duties which a surface organ alone can perform; these duties may be considered under two heads, as they are related to things occurring: (*a*) outside the body; and (*b*) inside the body.

(*a*) *Outside the body.*—Under this heading are four functions of the skin. (1) It receives all direct injuries from without, being thus the first line of defence; (2) it is the first tissue to be chilled or warmed by changes in external temperature, being thus the outpost for heat regulation; (3) it alone comes in contact with other bodies, welcome or unwelcome, being thus the intelligence department of the central nervous system, and through the latter is in close association with the sex organs; (4) it is the only tissue visible to others, and is therefore available for attracting or repelling them, or for evading them by disguise: here the protective and sex functions again come into association. In all these ways the skin is chiefly a receptive organ, and although it is intimately associated with certain inner organs the relationship is primarily from without inwards.

(*b*) *Inside the body.*—Under this heading the conditions are very different. If the skin formed a complete envelope to the body it would necessarily have the two vitally important domestic functions of absorbing nutriment and eliminating waste, and its relations with all internal organs would be very intimate; but it takes practically no part in the former process, and its action in the latter is confined almost entirely to elimination of a certain proportion of water and salts. Except as a heat-regulating mechanism the skin plays no obvious part in the general domestic metabolism of the internal organs. Regarded from a physiological standpoint, its importance as a receptive organ quite outweighs that relating to the domestic functions of the body.

Relation of Skin Diseases to Internal Disorders.

In considering the relation of skin diseases to internal disorders these points should, in my opinion, always be borne in mind: (1) That the skin is not merely a covering, but itself an important organ; (2) that its duties relate chiefly to events occurring outside the body; (3) that while some of these reactions are local processes in the skin, the bulk of them are controlled and regulated by the central nervous system, and are of the nature of reflex actions; (4) that like all other reflex actions they are capable of excitation from places other than the outside, and of being modified by the condition of the central nervous system resulting from changes in the internal organs. In this sense they must depend upon the condition of the body as a whole at any given time. Greater progress may result if we keep in view this individuality of the skin as an organ, and study more closely its reactions, than if we regard the skin as a kind of screen upon which the clinician views what is going on in the organs beneath.

I believe that many changes in the skin now attributed to internal disorders are capable of explanation as natural reactions of the skin to definite stimuli. Some of these, such as pigmentary changes, probably date back to remote periods, and are merely remains of functions once important, and now not only obsolete but actually inconvenient. There are, of course, many skin disorders which are obviously due to internal affections—for instance, the rashes of the exanthemata. But even here the individuality of the skin cannot be overlooked. We know that the rash of small-pox is due to a poison circulating in the whole body, but we do not believe that the liver or the spleen are simultaneously covered with papules which go through the well-known stages of the rash seen on the skin. All this is a reaction peculiar to the skin and not improbably modified by external conditions.[2] A list could easily be made of so-called skin diseases due to changes from within the body; it would include the exanthematous rashes, syphilides, herpes zoster, purpuric eruptions, &c.; such a list of agreed certainties would not be very long. It would also be easy to make a similar and rather longer list of affections certainly due to external causes, including scabies, pediculosis, tinea, impetigo contagiosa, burns, corns, &c.

There would still remain a considerable number of skin diseases about the origin of which opinions would probably differ; numerous common affections—among them many of the conditions once called eczema—would here be included. No doubt some of this uncertain group will one day be proved to arise from internal or external causes; meanwhile, in trying to ascertain the truth, the part which the skin itself plays must always be borne in mind, and it is to one aspect of these skin reactions that I shall limit my remarks.

Widespread Dermatitis Developing during Local Treatment.

We must all be painfully familiar with the fact that every now and then a patient who is being treated for some trivial local eruption—a varicose dermatitis of the leg or a sore place on the hand—suddenly and quite unexpectedly develops a widespread acute weeping dermatitis. Although the area around the original site is severely affected, yet the dermatitis is not limited to that area; it affects distant parts, with intervals of clear skin. There is usually a distinct rough symmetry about the eruption; if it is on one segment of one limb it appears on the corresponding segment of the other. It is also on corresponding surfaces of these segments. Often all four limbs and the face are involved. This sudden outbreak is usually attributed to some cause from within. The patient thinks it is due to something he has eaten; the doctor, according to his particular school of thought, speaks of suppressed gout or intestinal toxæmia, whilst both agree that the patient is probably overworked and run down and needs a rest. Inquiry will usually show that the outbreak has followed shortly after the application of some "new material" to the skin. This may have been ordered by the doctor; more commonly it has been surreptitiously bought at a chemist's or presented by a kindly fellow-sufferer. Sometimes this "new application" is so apparently harmless that it is difficult to convince oneself that it can be the cause; at other times it is a substance known to be "rather dangerous to sensitive skins." In other words, if my interpretation of these cases is correct, the acute outbreak does not depend solely upon the material applied, but also upon the susceptibility of the particular individual's neuro-

[1] A paper read at a discussion of the Medical Society of London upon Skin Disease: Its Relation to Internal Disorder, held on Feb. 14th, 1921.

[2] Finsen's well-known method of preventing pustulation by keeping small-pox patients in a red room is here alluded to.

cutaneous reaction to that particular material or type of material.

The conditions just described have certain points of resemblance to those found in dermatitis, due to a known irritant, such as primula obconica or phenylhydrazin, which are not universal irritants, as most people can handle them with safety. Yet in those whose skins are susceptible the violence and extent of the reaction far transcends the duration or extent of the contact. If a person susceptible to primula keeps away from it he will have no attacks of dermatitis. All this time he may be in excellent health in every way, but he remains susceptible. I have seen a case in which a lady successfully avoided contact with primula for 20 years, and then accidentally knocking over a vase of flowers in a friend's house, she hastily picked them up, only to find that one of them was a primula; in a few hours she was covered with an acute dermatitis. I think that this type of skin reaction to some particular kind of substance is more common than is generally recognised. Happily it is not present, and therefore cannot be called forth, in most people.

When first the phenomena of anaphylaxis were discovered there were so many features common to this and to the skin reactions here mentioned that the problem of skin idiosyncrasy seemed nearer solution. But there is obviously something more than the anaphylactic phenomena. Possibly there is some link connecting the two which time will make clear. I do not think that our knowledge of the defensive reactions of the skin is yet sufficient to carry this point further.

Acute Vesicular Dermatitis Induced by Wearing a Necklace.

The views I have expressed still lack definite experimental proof. The first step to such proof is to apply a known irritant to a limited area of the skin of a known susceptible and to produce a widespread acute dermatitis in remote areas of the skin. The difficulties of carrying out such an experiment are obviously numerous, but during the past year I met with almost the complete essentials, and the experiment was attempted. It did not succeed, but as the case presented some unusual features illustrating my point of view I shall briefly relate it.

The patient, a single woman, aged 31, came to consult me on Feb. 13th, 1920, complaining of a rash on the back of the neck. There was a transverse strip of acute vesicular dermatitis of considerable intensity extending across the nape of the neck. She asked if it could have been caused by an imitation pearl necklace, and gave me the following history: The necklace was given to her on Christmas Day, 1919. She wore it all that day from noon till bed-time, and put it on again first thing next morning. During the morning the neck began to burn and itch where the necklace was in contact; she took it off at once, and in a few hours there was an acute dermatitis which discharged freely for some days over the site, and did not disappear for three weeks. She did not put the necklace on again until the rash had disappeared, about the middle of January; she then wore it at a party from 6.30 to 9.30 P.M. Next morning the skin was irritable and the rash had appeared again in the same place. This also ran its course. The necklace was put away until Feb. 12th; then, expecting to meet the donor, she wore it at a ball from 7.30 till 11.30 P.M., and whilst still wearing it felt the irritation beginning. Next morning when I saw her the condition was as I have described above.

That the necklace produced the local dermatitis by contact with the unbroken skin was evident. There seemed no possibility of mechanical friction being the cause, as the pearls had a perfectly smooth surface. On examining an individual "pearl" the latter was found to consist of a thin hollow glass sphere with a small hole at each end of one axis; through these holes the pearls were strung on the thread. On attempting to slip the pearls along the thread it was found that they stuck, owing to the exudation of their contents. On crushing a pearl it was found to contain a wax-like material which, when warmed to body temperature, gave a greasy stain on filter paper.

It thus seems possible that the particular irritant in her case was not the smooth, solid surface of the pearl, but something put inside it to give the pearl-like appearance which exuded from the two holes on to the thread when warmed by the skin. This view seems to be confirmed by the history the patient gave of her previous skin experiences. She knew that certain greasy substances irritated her skin. Twelve years ago a well-known patent ointment, bought to apply to a sore nostril, produced a very severe and persistent inflammation over the whole of her nose and cheeks, which took two or three weeks to disappear. I may say I know this ointment as a frequent cause of severe dermatitis. Six years ago she sprained an ankle and applied "white oils," over which she put a dressing. In a short time an acute inflammation of the skin followed, extending up the front of the leg. She also volunteered the statement that some days later the front of the opposite leg, which she had not rubbed, became inflamed over a corresponding area, as she said, "in sympathy." This statement made me hope I should be able to produce a generalised outbreak. I persuaded the patient to come into hospital during her next vacation to undergo the following small experiment under observation:—

Experiment.—May 22nd, 1920, 11 A.M.: Necklace applied round left upper forearm. Bandaged over above and below. Skin at time normal. 8 P.M.: Itching in left forearm; about half an hour later a definite rash; patient slept well. 23rd, 11 A.M.: Punctate red rash forming transverse band about 3 inches wide across flexor surface of left forearm; it reached towards extensor surface on ulnar side, but no actual rash appeared on that surface. The rash became rapidly more irritable and painful during the rest of the day; she could not get to sleep at night, and at 3 A.M. on the 24th she requested that it might be removed on account of the intense discomfort; this was done. 24th, 10.30 A.M.: The affected area had become much wider and was uniformly inflamed, much swollen with numerous vesicles, and very tender and irritable. It now surrounded the arm in a complete ring, but was much wider and more intense on the flexor surface, like a signet ring. Calamine lotion was applied. 25th: Condition more advanced, swelling still acute, more extensive vesiculation running into large blisters and discharging freely. Gauze had been laid over it, and the removal of this caused much discomfort. H.B.F. applied. 26th: Patient slept well; slight itching; less swelling; vesicles less tense. Boric fomentations continued with G.P. tissue. 27th: About 4 P.M. irritation began for about 2 inches above upper edge of original area and extending over hollow of elbow. 28th: The new area is swollen—covered with vesicles. Original rash still very swollen and discharging. At her request lead lotion was applied without any G.P. tissue over it. 29th: The whole area very much better. 30th: She left hospital.

The experiment failed to produce a corresponding eruption in any part distant from the site of application of the irritant although extending much beyond area of contact. Whether it would have done so had the application of the necklace to the already irritated area been persisted in I cannot say, as the patient would not hear of such a thing. It must be admitted that in her case on no previous use of the necklace had there been a generalised outbreak; it had always remained local. There was, however, the history of patches occurring on both legs after applying oils to one only. But the obvious possibility of contact makes this of doubtful value to prove my point.

We have still to explain why this patient developed an acute localised dermatitis when the necklace was laid upon her forearm for a few hours. She has cut the necklace in two and given half to a friend who wears it with impunity. Mechanical friction is no explanation, because the patient wears without any discomfort another necklace made of solid beads. It is unnecessary to consider any internal disorder, for she is in active, robust health and works hard. The trouble must be in the reaction of her skin to this particular type of irritant. I hope that someone may be able to answer the questions I have raised, for I feel that until we have a clearer insight into these simpler reactions of the skin itself it is very difficult to form an estimate of the extent to which they are modified by internal disorders.

ROYAL PORTSMOUTH HOSPITAL.—The sum of £10,000 allocated to the Royal Portsmouth Hospital by the Mayor's War Memorial Fund Committee is to be utilised for erecting a new public entrance to the institution, and also for making several necessary internal alterations.

TWO CASES OF

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS

SAVED BY EARLY OPERATION.

BY W. G. MACDONALD, M.B., CH.B. GLASG.

CONGENITAL hypertrophic pyloric stenosis is generally considered to be a somewhat rare condition; but the frequency with which it is recognised by those who constantly watch for it, establishes the fact that it is relatively common. Since Beardsley, of Connecticut, U.S.A., described the malady there has been much debate concerning its ætiology and treatment. That it is congenital is almost [2] universally believed, although hyperplasia, hypertrophy due to spasm, and fœtal hyperadrenalism have been advanced as probable causes. The pathology has been definitely accepted. There is a hyperplasia of the sphincter pyloris and of the muscularis mucosa of two types: one, the more common, a massive avascular type, and the other, a small, hard, fusiform vascular type. Both are of cartilaginous hardness and constrict the pylorus to a greater or lesser degree. H. Tyrrell Gray and G. R. Pirie [1] show that an inhibition of pancreatic function is associated with the stenosis, a factor which is of great practical importance in the treatment of the disease.

Symptoms usually appear in the third or fourth week, sometimes within a few days of birth and occasionally in the early months of infancy. They are strikingly definite: (1) vomiting (propulsive or projectile type) of all food, (2) constipation, (3) wasting, (4) visible gastric peristalsis, and (5) a palpable pyloric tumour. If the condition is not relieved the child dies of starvation in a few weeks. The differential diagnosis between hypertrophic stenosis and pylorospasm is often difficult: clinical statistics are subject to individual error and unreliable. The presence or absence of a palpable pyloric tumour should decide the diagnosis.

The mortality in cases of congenital hypertrophic pyloric stenosis treated medically is very high.[3] In the United States the condition is regarded as a surgical emergency, and a series of 36 cases since 1905 shows a mortality of 13·8 per cent. Until April, 1918, the surgical mortality at Great Ormond-street Hospital was 100 per cent. Since then operation in "favourable or early" cases in a series of 11 shows a mortality of 9 per cent. In Britain it has been a repetition of the story of the medically treated appendix, with its heavy mortality.

There is a preponderance of evidence to show that the hypertrophic tumour is permanent.[4-7] Cases of stenosis which have been relieved by medical treatment are liable to relapse in later life when intercurrent disease gives rise to a recrudescence of symptoms. But notwithstanding the evidence, physicians of standing recommend that medical treatment should be tried for three weeks or so [6] before surgical measures are taken. Granted that the pyloric tumour is permanent, medical treatment by small predigested feeds, opium and chloral hydrate, and gastric lavage must be a laborious attempt to coax an already dilating stomach to undergo an hypertrophy sufficient to overcome the pyloric stenosis. In moderate degrees of hypertrophic stenosis this may be accomplished, but, as we have seen above, there is a risk of relapse in later life. From the surgical point of view it is astonishing that any infant should be expected to survive the shock of operative treatment after "three weeks or so" of constant vomiting, of starvation, of progressive deterioration of gastric mucosa, and of exhausting stomach lavage. The appalling mortality which follows when surgical treatment is delayed in order to try the effect of medical treatment compares most unfavourably with the light surgical mortality following early operation in the United States and at Great Ormond-street; and this comparison enforces the importance of increasing our knowledge by recording all cases.

The Cases Described.

The following are the first two cases treated at the West Herts Hospital; neither of them could be classified as a good operative risk according to the standards of those who treat congenital hypertrophic stenosis medically, nor could either of them be regarded as a case in which medical treatment was likely to be successfully carried out. There can be little doubt that early operation was the determining factor in their successful issue.

CASE 1.—Michael M., born Sept. 4th, 1920, birth-weight 5 lb. His mother had an accidental hæmorrhage on August 19th; she lost a considerable amount and was treated by rest in bed until parturition. The child was jaundiced when born. He began to feed two days later, taking the breast well every two hours during the day and once in the night; seven feeds in 24 hours. The bowels moved each day and the stools were apparently of normal colour and consistence. At the end of the first week, weight had fallen to 4½ lb.; during the second and third weeks the birth-weight was reached though never exceeded.

In the middle of the third week the first evidence of gastro-intestinal trouble appeared, the stools becoming green in colour; and on Sept. 27th, 23 days after birth, projectile vomiting occurred after every feed. Constipation began on the 29th. Olive oil ʒi was given by mouth, and a green, small motion resulted. By the 30th there was absolute constipation, and on Oct. 1st the urine was scanty. The infant was seen by Dr. J. H. Addinsell late on Friday evening, and he found the abdomen distended and very difficult to examine. A saline enema was returned without fæces or flatus. Hot and cold swabs applied alternately to the epigastrium did not precipitate vomiting. Gastric peristalsis was not seen.

On the morning of Oct. 2nd we saw the infant in consultation. He was wizened, wrinkled, jaundiced, and obviously in pain; mouth and eyes were half open; fontanelle sunken; hands clenched; legs flexed on abdomen; abdomen rigid and distended; no visible peristalsis. Vomiting occurred during examination, unchanged food streamed from nose and mouth without apparent effort. The projectile character was lost owing to weakness. On vomiting, the abdominal muscles relaxed and an indistinct tumour was felt behind right rectus in the upper abdomen. The child weighed 4 lb. 6 oz.; his length was 18 inches.

He was admitted to the West Herts Hospital; operation was performed at 2 P.M. on the same day. The abdomen was opened through the upper right rectus. A hypertrophy of pylorus of the large avascular type resembling a decalcified bone bobbin was found. Ramstedt's operation was performed. The sero-muscular coats were split down to mucous membrane in the long axis of the tumour. In doing this the gastric mucosa was inadvertently holed, the wound admitting a fine probe. This wound was closed by one fine catgut suture. Some trouble was met with owing to prolapse of gut, but was fairly easily overcome. The abdomen was closed with three through-and-through sutures. Post-operative shock was combated by warmth, warm moist oxygen, and two-hourly enemata of normal saline ʒi. with glucose mɳ xl.

CASE 2.—John D. S., born August 30th, 1920. Birth-weight 8 lb. His mother, a primipara, felt and was well during the whole period of pregnancy; the infant apparently gained in weight for 22 days; but on Sept. 21st he began to vomit after each feed, and on the 22nd vomiting was of projectile type. Constipation began on the 24th, and the bowel did not act until relieved by enema on the 27th, when the district nurse stated that the result was good. On the 30th an enema was given with little result, a few small scybalæ being passed. Projectile vomiting continued. It occurred as soon as food was taken, but occasionally at varying periods up to an hour and a half from the last feed. Glaxo, albumin water, and Allenburys food were tried. Dr. Addinsell, who was called on the morning of Oct. 8th, asked me to see the child with a view to operation.

Examination.—Weight was 6 lb. 7 oz., the length 21 inches. He was emaciated, his legs drawn up on a distended abdomen, his face wrinkled and expressive of pain, fontanelle sunken, skin shrivelled and without elasticity—a typical "Indian famine" picture. No phimosis or preputial adhesions. Visible gastric peristalsis was noted. With the baby lying on the left hand, face downwards, an indistinct tumour to the right of right rectus and under the liver could be palpated. The infant was admitted to the West Herts Hospital at midnight, Oct. 8th. A breast-feed was given and projectile vomiting occurred. Nutrient enemata of normal saline with glucose were given two-hourly until operation. Next morning a quantity of brownish fluid was vomited.

Operation was performed on Oct. 9th. Profiting by our experience in Case 1, a 2-inch incision was made through the upper right rectus exposing the convexity of the liver. On

displacing the liver upwards the greatly dilated stomach ballooned through the incision. The pylorus was delivered and found to be of the small hard, fusiform vascular type. The only possible line of incision was along the continuation line of the lesser curvature of the stomach, and it was made by means of knife and blood dissection to normal stomach above and to the well-marked duodenal reduplication of mucosa below. Division of the sero-muscular coats was more difficult to accomplish in this case than in Case 1. The abdomen was closed by three through-and-through silkworm gut sutures.

After-treatment.—For the first 12 hours half-ounce feeds of glucose ɱ xl. and sod. bicarb. gr. x. with water by the mouth; glucose saline enemata were given every two hours. Thereafter small feeds up to the point of tolerance were given. More than half an ounce given at any one feed during the first week produced regurgitation of non-projectile type.

Comparison of Cases.

Weight.—Case 1: Four ounces were gained in the first week. The weight fluctuated until the fourteenth day and then steadily increased. Case 2: The weight remained stationary until the fifteenth day, when an increase at the rate of 1¾ ounces a day began.

Bowels.—Case 1: Bowels opened on the day following operation; but the stools did not become normal until the fourth week after operation. Case 2: Bowel moved on the second day and by the sixth day the stool was almost normal.

Temperature, rectal.—Case 1: Rose to 100° F. on the fourth day and was subnormal by the sixth day. Case 2: Rose to 101° F. at 2 A.M. on the morning following operation, and fell to subnormal by the evening of the same day. With increase of weight in both cases the temperature level rose slightly nearer the normal line. Those temperatures are interesting, since they differ markedly from the clinical temperature chart published by Gray and Pirie, who show that a pyrexia ranging from 103° to 105°, falling to normal in four to five days, is usual after Ramstedt's operation. The difference in type we attribute to the state of the gastric mucosa at the time of the operation. Case 1 was operated on six days after the onset of vomiting, whereas Case 2 was operated on 19 days after onset, so that the consequently greater dilatation of stomach and the more unhealthy condition of the mucosa, shown by the emesis of brownish fluid on the morning of operation, are regarded as the causes of the modified pyrexia.

The immediate post-operative change for the better in the infants' appearance was very striking. The mother of Case 2, in commenting on it, remarked that even if the result were adverse she would never cease to be grateful for the relief that operation gave.

Anæsthetic.—The good judgment of the anæsthetist in his choice of anæsthetic and in its administration to such debilitated and unstable subjects is of extreme importance in the surgical treatment of congenital hypertrophic pyloric stenosis. In both cases cited above we were fortunate to have the experience and skill of Dr. Dudley W. Buxton.

Choice of Operation.

In Case 1 Ramstedt's operation was the only procedure possible, owing to the smallness and debility of the infant. In dealing with Case 2, the choice was influenced first by the quickness with which the operation could be performed, and secondly by the autopsy findings of Rachford, who noted that six months after a Ramstedt operation the pylorus showed no trace of tumour; and by their confirmatory evidence in the cases examined post mortem by Gray and Pirie. Subdermic infusions of saline and glucose were not given. An empty, healthy colon and rectum ought to absorb sufficient fluid to relieve thirst and to satisfy the tissues to the point of surgical safety. Moreover, the obvious dangers of infusion and the annoyance of operating through œdematous tissues were avoided. Diarrhœa appears to be one of the dangers incident to post-operative treatment, and therefore feeding must be carefully studied.

The dilated unhealthy stomach of a case treated medically for three weeks or so, no matter how conscientiously washed out, is a fruitful source of acid fermentation. The coexistent inhibition of the pancreatic function tends to further fermentation. Small amounts of predigested food are therefore necessary. Peptonised milk has been empirically advised by Hutchinson, Gray and Pirie, and others. We found, however, that even very small amounts of peptonised milk (dr.ii. to dr.iv.) were not well tolerated. In theory one would expect a greater tendency to diarrhœa with an acid food passing into the intestine unneutralised by the strongly alkaline pancreatic secretion. In practice we are confident that this is the case. In our cases the diet consisted of diluted Nestlé's milk predigested by papain (Martindale) and sod. bicarbonate, the result being an alkaline, non-irritating, non-septic, palatable food which was greedily taken and well tolerated. It might be argued that an alkaline food would tend to delay the re-establishment of pancreatic function, and that what is gained on the one hand is lost on the other: but this argument is clinically of little importance.

Conclusions.

1. That in view of the proof that the congenital tumour persists in adult life, medical treatment can merely relieve the condition and that only in a small percentage of cases.
2. That early surgical treatment is indicated in all cases where hypertrophic pyloric stenosis has been diagnosed.
3. That Ramstedt's operation appears to be the only procedure which restores the pylorus to a condition approaching the normal.
4. That the general practitioner accustomed to surgical technique can successfully perform Ramstedt's operation even in the most severe cases of pyloric stenosis.

References.—1. Gray, H. Tyrrell, and Pirie, G. R.: THE LANCET, 1919, ii., p. 515. 2. French, Herbert: Index of Differential Diagnosis of Main Symptoms, 1917, p. 384. 3. Warren, Richard: THE LANCET, 1920, i., p. 1359. 4. Short, A. Rendle: Index of Prognosis, second edition, 1918. 5. Maylard, A. E.: Glasgow Medical Journal, November, 1920. 6. Hutchinson, Robert: Index of Treatment, p. 198. 7. Romme, R.: Jahrb. f. Kinderheilk., 1907, vol. xl.

Boxmoor.

THE STANDARDISATION OF TUBERCULIN.

BY A. J. EAGLETON, M.D. LOND.

(From the Wellcome Physiological Research Laboratories.)

TUBERCULIN has at present three chief uses: (1) the testing of cattle for tuberculosis; (2) the diagnosis of tuberculosis in man; and (3) the treatment of tuberculosis in man. Tuberculin prepared in the usual way has often been found inefficient for (1) and (2), and inactive preparations have doubtless been used in treatment. The standardisation of such a drug is then of great importance; the object of this communication is to show the degree of accuracy with which it may be done.

The various methods of standardising tuberculins are based on Koch's original discovery that tuberculous animals show a characteristic reaction when injected with doses of tuberculin which are quite innocuous to the normal animal. The official Frankfort[1,2] test is essentially identical with that of Koch; a similar test is used in Vienna. The Bureau of Animal Industry, Washington, U.S.A.,[3] employs a slight modification of the original method. There is at present no official test in Great Britain.

In this paper is described the test as applied in this laboratory, with the difficulties presented and the degree of accuracy permitted by its use. The subcutaneous test, which is a modification of the Frankfort test, will first be considered. The improvements introduced in the intradermic and von Pirquet tests will then be reviewed. Finally, a résumé will be given of all tests carried out with the tuberculin which we employ as our standard.

Preliminary sensitisation.—A batch of guinea-pigs of approximately equal weight, and from 50 to 70 in number, is injected

intramuscularly with a saline suspension of tubercle bacilli (1 mg. per c.cm.). Half a cubic centimetre is injected into the anterior and inner aspect of the right thigh, deep to the adductor muscles. The right inguinal region of the injected guinea-pigs is examined periodically for enlargement of the lymphatic glands; any animals that may die from extraneous causes are carefully searched for signs of infection. After about 21–30 days glandular enlargement will be appreciable; we can then proceed to the preliminary test, which is as follows.

1. *Subcutaneous Test.*

Into one animal of the batch 0·5 c.cm. of a tuberculin which has remained constant in value for a long period and is used as a "standard" is injected under the skin of the abdomen. If death occurs within 24 hours with typical lesions, then the main test can be undertaken. Should the animal survive, or should the post-mortem findings be atypical, then a further preliminary test must be made at a later date, and so on, until a typical death is obtained.

The main test consists in the comparison of a sample with the standard tuberculin. Doses of 0·5 c.cm., 0·25 c.cm., 0·1 c.cm., 0·05 c.cm. of each tuberculin are injected, and the lowest dose found that will produce a fatal result in 24 hours with typical post-mortem signs. At least two animals must be injected with the "minimal lethal dose." The following scheme will explain the procedure:—

Batch X., injected 0·5 mg. standard strain tubercle bacilli.

Preliminary Test.

25 days later	...	0·5 c.cm.	Standard tuberculin	...	S.
7 „ „	...	0·5 c.cm.	„ „	...	D. 2 days.
7 „ „	...	0·5 c.cm.	„ „	...	D.o.n.

Main Test.

C.cm.	Standard.	Sample A.	Sample B.	C.cm.	Standard.	Sample A.	Sample B.
0·5 ...	D.o.n. ...	D.o.n. ...	S.	0·05 ...	S. ...	S.	... —
0·25 ...	D.o.n. ...	D.o.n. ...	S.	0·05 ...	S. ...	S.	... —
0·1 ...	D.o.n. ...	D. 48 hs...	S.	2·0 ...	— ...	—	... S.
0·1 ...	D.o.n. ...	S. ...	—	1·0 ...	— ...	—	... S.
0·1 ...	D.o.n. ...	S.* ...	—				

S. = survived; D. = death; o.n. = overnight. *Seedy.

Sample A is just under standard strength, while sample B is useless. The minimal lethal dose of the standard varies with the batch of animals, as will be shown later; the samples can only be appraised by comparison with the standard on the same batch of animals. In other words, no absolute value can be given to any tuberculin as the reagent employed to test it is a variable. As much as 5 c.cm. of the standard has been injected into non-tuberculous guinea-pigs without giving rise to any result except the immediate irritation, due to the glycerine content of the inoculum.

The main difficulty in connexion with this test lies in the fact that different batches of animals vary in the time which they take to become sensitive to the tuberculin. It will be seen later that the individual members of a batch vary so little in sensitivity that it is rare to find any aberrant deaths or survivals when testing serial dilutions of tuberculins. The different batches, on the other hand, show variation, both in the length of time taken to become sensitive and in the degree of sensitivity attained, as judged by the minimal lethal dose of standard tuberculin.

The earliest period at which any batch is sensitive can only be found by a preliminary test as described above, and in some batches as many as five such tests have been negative. Again, if 0·5 c.cm. of standard kills one or two animals of a batch we have to inject lower doses to find the degree of sensitivity present; in this way many animals are wasted. In order to obviate this difficulty we tried both the von Pirquet and intracutaneous tests parallel with the subcutaneous test. As a result of many experiments we found a correlation between the three methods, as shown in the table (vide infra).

2. *The von Pirquet Test.*

Von Pirquet himself studied the cutaneous reaction of tuberculous guinea-pigs to tuberculin; he states that these animals are not very sensitive to the drug, and that a deeper scarification is necessary than that used for the test in human beings. Our experiments confirm this, but we found that when deep scarification was used the resulting trauma sometimes made the reactions difficult to read. We changed our method of scarification from two intersecting parallel lines to two and finally three parallel scratches ///, and the "three-scratch" test is the one we now employ. With this method the trauma is not sufficient to obscure the reaction, and well-graduated readings can be obtained with different dilutions of tuberculin on the same animal. Before the tests, a white area of the animal is deprived of hair by clipping and the application of a calcium sulphide paste, after which the area is washed with warm water and the animal thoroughly dried. The groups of three scratches are spaced out as far as possible. Different dilutions of the tuberculins are applied to the areas, and glycerine broth, ten times concentrated as in the preparation of the tuberculin, is used as a control. The reactions can be read in 24 hours, and have generally diminished by 48 hours.

3. *Intracutaneous Reaction.*

The intracutaneous reaction was first described in 1905 by Mantoux, Moussu, and Römer, and adopted later by Loewenstein, but is not used in any official laboratory.

The test consists in the injection of 0·1 c.cm. of diluted tuberculin into the skin of the shaven area. As in the von Pirquet test, we have always used a control of broth, but in this case diluted 1/10. The reactions cannot be read in 24 hours, taking three days to reach their maximum development. The control injection gives a transitory reaction, but this fades by the second or third day, while the different dilutions of tuberculin give rise to lesions of varying intensity. In the most marked, a central area of necrosis is surrounded by a bright red halo, the whole mounted on an œdematous disc with a sharply defined border. The slighter degrees are marked by diminishing necrosis until the end-point consists merely of a small raised disc; often, however, there is a sudden transition from a lesion showing necrosis to a completely negative reaction.

The von Pirquet and intracutaneous tests can be used for the standardisation of tuberculins, but hitherto we have always checked the results so obtained by the subcutaneous method. The skin reactions are, however, indispensable in experimental work, where we have a large number of samples made in different ways, where the available material is small, or where we must test for small traces of active principle. It should be pointed out that in all cases where the skin tests are used alone, a control and the standard must be included on the same animal as the samples under experiment. Slight individual variations occur in the members of a batch. These are due partly to the differences in the skin trauma, and partly to the fact that the skin reactions, being more delicate, detect variations which do not affect the subcutaneous test.

The value of the von Pirquet test as a guide to the sensitivity of a batch, and the comparison of the skin reactions with the subcutaneous test, are shown in the following table:—

Batch XV.

19/6/20.—0·5 mg. *B. tuberculosis* H12, injected intramuscularly into batch of animals.

8/7/20.—Von Pirquet test: standard tuberculin undiluted +, control −; 1/10 (+).

12/7/20.—Same animal as above, standard 0·5 c.cm., subcut. D.o.n.

15/7/20.—Von Pirquet:

	Tuberculin.		Broth.
	Standard.	Sample A.	Control.
Undiluted	++	+	−
1/5	(+)	−	
1/10	−	−	

23/7/20.—Von Pirquet:

	Standard.	Sample A.	Control.
Neat	++	+	−
1/5	++	(+)	
1/10	+	−	
1/20	?	−	

Intracutaneous (72 hours reading).

	Standard.	Sample A.	Control.
1/5	.....	++	−
1/10	.....	++	
1/15	.....	++	
1/20	.....	−	
1/50	++	.....	

24/7/20.—Subcutaneous:
Standard 0·25 c.cm. D.o.n. Sample A 0·5 c.cm. D.o.n.
0·25 c.cm. S.

3/8/20.—Subcutaneous:
Standard 0·1 c.cm. D.o.n. Sample A 0·5 c.cm. D.o.n.

4/8/20.—Standard 0·05 c.cm. D.o.n. Sample A 0·5 c.cm. D.o.n.
0·05 c.cm. S.; seedy. 0·25 c.cm. S.

++ = Very strong. + = Strong. } Von Pirquet reaction.
(+) = Slight. − = Negative. }

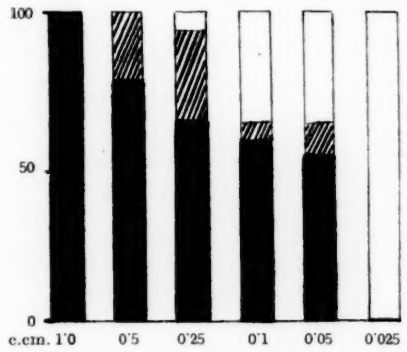
4. *Constancy of Test.*

Since August, 1919, when our present standard was adopted, 13 different batches of animals have been infected with a constant dose of the same culture. Of these animals 91 have received doses of standard

ranging from 1·0 c.cm. to 0·025 c.cm. In only two cases were irregular results produced with animals of the same batch—that is, a low dose killed, while a higher dose was ineffective. The individual variation of members of the same batch gives an error then of just over 2 per cent.

The constancy of the test on all batches is shown in the diagram. It represents animals injected with tuberculin at least 30 days after infection. The tops of the

Diagram showing Dose in Cubic Centimetres.



Dark columns show percentage of deaths at each dosage. Shaded columns show percentage improvement after adoption of von Pirquet reaction.

black columns show the percentage of deaths at each dose. The tops of the shaded columns show the increased percentage of deaths since we have employed the von Pirquet test to indicate the dosage for subcutaneous inoculation.

The following factors must be controlled if accurate results are to be obtained: (1) the same strain of tubercle bacillus must be used for injecting the animals; (2) the guinea-pigs should be about the same size; (3) all animals to be given injections of tuberculin should be examined and any sick ones discarded—no animal should be used unless the inguinal glands are palpable; (4) the von Pirquet test should be used to guide the dosage for subcutaneous injection.

The results show that tuberculins can be tested with a reasonable degree of constancy. They also show the value of the von Pirquet test as an adjunct to the subcutaneous test. It may, I think, also be claimed that the standard in use in this laboratory has been thoroughly tested and is suitable for this reaction. We have tested tuberculins made in 1889 and since that date, and many of the earliest samples are still potent. We are, however, at work on the exact standardisation of a purified, dried tuberculin, which may, if satisfactory, be used as a standard in future.

In conclusion, I have to thank Dr. Stanley Griffiths for his kindness in sending us our standard culture, and all my colleagues for criticism, suggestions, and help. Above all, I am indebted to Dr. R. A. O'Brien, who initiated this work and placed at my disposal his knowledge of the test derived from long experience.

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CZECHO-SLOVAK MEDICAL DELEGATES AT BRIGHTON.—The delegates of the Ministry of Health of Czecho-Slovakia, on their return from studying health methods in America as guests of the Rockefeller Foundation, visited Brighton on Feb. 15th. They were specially interested in its sanitary administration and its general health activities. Dr. Duncan Forbes, the medical officer of health, showed them his system of work, and visits were paid to the Sanatorium School Clinic and Tuberculosis Dispensary, and to the estate where a big housing scheme is in process of development.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A PROBABLE CASE OF CEREBRAL VENTRICULAR HÆMORRHAGE, ASSOCIATED WITH MARKED AND PERSISTENT CONVULSIONS.

BY E. J. PARRY, M.R.C.S., L.R.C.P. LOND., AND O. K. WILLIAMSON, M.D. CANTAB., F.R.C.P. LOND.

THE following case is of interest on account of (1) the intensity and persistence of the convulsions, and (2) the diminution in the degree of unconsciousness followed by a relapse into complete coma.

At 11.30 P.M. on March 14th, 1920, Mr. Parry was summoned to see a gentleman, aged 45 years, who had just previously been seized with a fit whilst in a warm bath. Dr. Williamson was called in and arrived at 12.30 A.M. on the 15th. The patient was then practically unconscious, with insensitive conjunctivæ and pale, livid face. His condition of marked general tonic rigidity soon gave place to a general clonic spasm, left arm being flexed at the elbow, right arm extended with rolling and scratching movements of fingers of right hand. Lower extremities extended, the mouth slightly open, and tongue, which was clean, alternately protruded and retracted, the pupils equal and rather dilated. Pulse full, rather rapid, apparently not of high tension. Superficial arteries neither tortuous nor thickened Heart normal, respiration stertorous. At one time the degree of unconsciousness became less marked and patient uttered inarticulate sounds. At about 1.30 A.M. the rigidity became much less marked, for the spasm which had alternately increased and diminished had by now lessened. The colour of the face was now better than it had been; about this time patient passed a very offensive motion. The pupils became normal in size; the respirations quieter, and at about 2.30 A.M., when both doctors left the house, the degree of unconsciousness certainly seemed to be less profound than it had been.

At 8 A.M., however, Mr. Parry found the patient to be completely unconscious, the left pupil minutely contracted, the right dilated; there was complete paralysis, and he died soon after 9 A.M.

The clinical picture at the time we left the house at the end of the first visit was that of a severe epileptic seizure, but the subsequent course puts a different interpretation upon the case. Any question of poison may be ruled out, and although perhaps uræmia cannot be absolutely excluded, the clinical course is best explained by a hæmorrhage from a branch of the middle cerebral artery, with rupture into the ventricle. A necropsy was not obtained. A history was obtained from the patient's wife that on three previous occasions, at intervals of about a year (the last time about a year before the fatal illness), attacks had occurred which the attending doctor considered to be epilepsy, and each of which necessitated a day's rest in bed.

A CASE OF DIAPHRAGMATIC HERNIA.

BY A. E. KEOWN, M.B. BELF.

CASES of this rare condition are reported from time to time in the literature. As a rule a portion of the stomach or intestines passes through the diaphragm into the left pleural cavity and symptoms follow which call for urgent operative interference.

Sapper M. W., 106th Co., R.E., was hit by a bullet in the left posterior axillary line below and to the outer side of the lower angle of the left scapula. This happened at Moquet Farm, Pozières, on the French front. He fell, and was carried to a station where he coughed up blood through most of the night. He was X rayed at Boulogne, and again at the Endell-street Hospital, where he lay five weeks, but no bullet was seen. After this there was constipation, and at times flatulence and hiccough. On August 14th, 1920, he came to me complaining of cramp-like pains beginning to left of umbilicus, and reaching nearly to left shoulder. He had had a restless night, and had vomited a bitter green fluid. He had been given an enema with some result. There was no retention of urine. Examination of the abdomen caused the pains to recur. There followed borborygmi, and the pain was easier. This sequence could be elicited and followed each time the abdomen was palpated. Temperature and pulse normal.

On the 15th the abdomen was distended and very prominent to the right of the umbilicus. The enemas were being returned uncoloured and all borborygmi had ceased. It was evident that a partial obstruction was now complete and he was sent into the Merthyr General Hospital. A high enema was given there but without result. He did not look very ill. The absence of vomiting and of an intestinal ladder seemed to indicate that the obstruction was in the large bowel.

On the 19th Mr. R. S. Ryce opened the abdomen through a median incision and the large intestine appeared, looking like liver and greatly distended. A rubber tube was tied in and it collapsed, permitting further examination. The colon was then found to leave the abdomen at its splenic flexure. The opening in the diaphragm was easily enough enlarged with the fingers and a portion of the bowel pulled down. There were firm adhesions that prevented the return of all the bowel; moreover, the patient's condition did not justify any further operative procedure, and the abdomen was closed. For a few days fæces were passed through the tube as well as per rectum, and then it was removed.

The patient, a blacksmith, has been warned that he will have to seek lighter work. He complains now at times of flatulence, and it is not improbable that another operation may be required to free the adhesions, return the prolapsed colon, and repair the diaphragm. To do this really well it seems to me imperative to resect at least two ribs and so get at the diaphragm from above. Mr. Ryce tells me that the opening in the diaphragm was circular and well to the left of the œsophagus, also that it was not connected with either arcuate ligament and that it was just such an opening as might have been made by a bullet.

Llwynwern, Glam.

TWO CASES OF RELAPSING FEVER.

BY ROBERT NIXON, M.B., CH.B. LIVERP.

THE following cases of spirochætal relapsing fever occurring in Liverpool are of interest in view of the large number of emigrants from Eastern Europe now passing through our ports:—

The patients, H. S. and B. S., two Roumanian boys, aged 15 and 11 respectively, were admitted to the City Hospital South, Liverpool, on Nov. 26th, 1920, from an emigrants' boarding-house with the diagnosis of measles. The history was as follows: They left Roumania on Nov. 9th, and arrived in Liverpool, via Prague and Hamburg, on Nov. 23rd. They were not deloused at Hamburg. Neither of the boys showed any signs of illness on the voyage, but the elder, H. S., complained of headache and malaise shortly after landing. The younger boy had appeared in normal health up to the time of admission to hospital. No rash had been noticed on either.

H. S. on admission had a temperature of 103° F. which rose the following morning to 105°, accompanied by expectoration of about an ounce of "rusty" sputum, and fell by crisis the same evening to 98°. Nothing abnormal could be found in the lungs and no

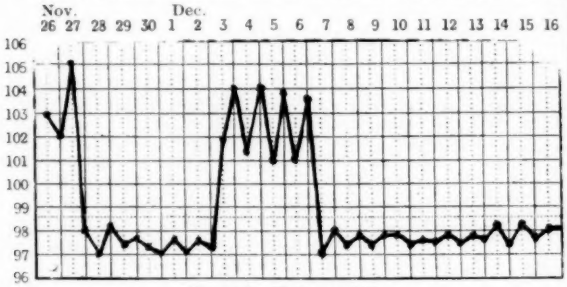

CHART 1.—H. S., aged 15.

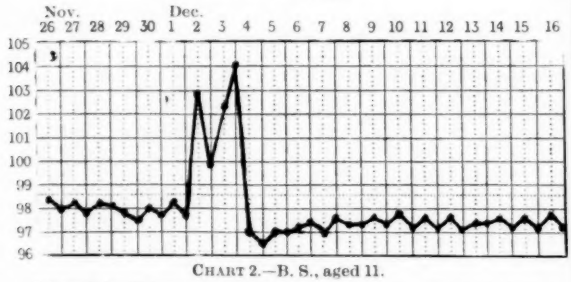

CHART 2.—B. S., aged 11.

tubercle bacilli or pneumococci in the sputum. The younger boy, B. S., appeared in normal health on admission. However, his temperature rose to 102° on Dec. 2nd, and the following day H. S.'s fever recurred, again accompanied by expectoration of "rusty" sputum. Blood smears taken on Dec. 4th showed in each case spirochætes throughout the field in large numbers, exceedingly thin and in length about three or four times the diameter of a red blood corpuscle. H. S.'s blood still showed spirochætes on Dec. 6th; but all subsequent smears from B. S. were negative.

Neither boy has had any relapse since Dec. 7th, and both were discharged from hospital in good health and apparently completely recovered.

Liverpool.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

SKIN DISEASE: ITS RELATION TO INTERNAL DISORDER.

A MEETING of this society was held on Feb. 14th, Sir FREDERICK W. MOTT being in the chair, when a discussion took place on this subject.

The opening papers, by Sir JAMES GALLOWAY and Professor ARTHUR HALL, are given in full in the front part of THE LANCET of last week and the present issue respectively.

Dr. E. W. GOODALL said that he based his remarks upon an experience derived solely from an acquaintance with

Skin Affections connected with Acute Infectious Diseases

of this country. The eruptions met with in the acute infectious diseases were acute and transient and variable, from a fleeting urticaria to a pustule which left a scar. The cutaneous phenomena of the acute infectious diseases were met with at different stages of an attack, but, as a rule, certain skin manifestations were met with at certain stages. They might be arranged in three groups: (1) the prodromal or initial rashes, (2) the eruptions characteristic of the exanthemata, and (3) the rashes of the post-acute or post-eruptive stage. There might be a certain amount of overlapping, but, broadly speaking, the rashes were found at these stages. Except in the case of small-pox the prodromal rashes were common to certain infectious diseases, and some of the prodromal rashes even of small-pox were common to other diseases. In the exanthemata the rashes of the eruptive stage were confined to each disease; the rash of scarlet fever did not replace that of measles, for instance, but these rashes might be produced by other causes.

With regard to the post-eruptive, post-acute stage rashes, these had also been termed "secondary" or "accidental" rashes. They occurred usually from one to four weeks from the beginning of the attack. They were common to all the infectious diseases with which he was acquainted and were either urticaria, macular and slightly papular erythema, or erythema marginatum. Although they were met with in all the infectious diseases they were relatively infrequent in each one of them. He thought that it would be granted at the present day that the cutaneous eruptions, whether special or common, of the infective diseases were not primary lesions, but were only one of many changes, visible or invisible, including more or less the whole body. The chief argument in support of this statement was the undoubted fact that a person might suffer from an attack, a serious attack, of most of the acute infectious exanthematous diseases without the presence of any exanthem whatever. The next question which arose was whether the skin lesion was due to changes in the structure or alteration in the functions of any particular internal organ. So far as he was aware, there was no evidence in favour of this view. It was a question of a general cell or tissue disorder. For many years past a great deal of work had been done on the question of infection. It would appear, however, that cutaneous eruptions of the erythematous class were not visible on the skin of the animals used for experiments. Indeed, it seemed to be difficult to affect most animals with the human infectious diseases, at any rate, in the same form as they assumed in man. Included in work which he mentioned was the experimental work on anaphylaxis and the clinical work on serum sickness. Nothing occurred in animals, however, which corresponded with ordinary serum sickness in man. He emphasised the fact that the rashes of serum sickness were always either urticaria, a morbilliform erythema, or erythema marginatum.

The question which he wished to discuss was whether the phenomena of serum sickness in man or of the anaphylactic rashes in animals threw any light upon the nature of an attack of an acute infectious disease in the human subject, and he wished to discuss the question chiefly in respect of the skin eruptions. There were some who held that an attack of an acute infectious disease was an anaphylactic reaction, and they would argue, in most instances, that an attack of serum sickness was also an anaphylactic reaction. In his opinion, this was not true of an attack of an acute infectious disease, nor was an attack of acute infectious disease brought about in the same way as an attack of serum sickness. He thought that

observers had been led away by the presence of the latent period in both anaphylaxis and serum sickness, and of the rashes in the latter disease. This latent period happened to be of about the same length as the incubation period of certain of the acute infections, notably measles, small-pox, chicken-pox, enteric, and typhus. In other infections, however, it was much shorter, of only one to three or four days' duration, as in scarlet fever, diphtheria, and influenza. He had stated that the rash of serum sickness was always one of three rashes. If an attack of an acute infectious disease was of the same nature as serum sickness, and still more so if serum sickness was anaphylactic, these three rashes, or one or two of them, ought to be a leading symptom in an infectious disease. But it was notorious that the rashes of the exanthemata were different one from the other, that specific rashes were entirely absent from some of the acute infections, and that they might also be absent from not a few cases of the exanthemata themselves. Inasmuch as the same rashes occurred in the anaphylactic forms of serum sickness as occurred in the ordinary form, it might be concluded that the occurrence of the rash was evidence of protein poisoning. Experiments on animals led to the conclusion that in the same animal different proteins gave rise to the same anaphylactic symptoms. Therefore he concluded that the rashes of the acute exanthemata were not due to protein poisoning pure and simple. Whatever explanation might be offered of the means by which the symptoms of an attack of an acute infectious disease was brought about, that explanation must take into consideration account the special symptoms—for example, the specific rashes. It was generally admitted that the hypothetical anaphylatoxin that produced the lesions and symptoms of anaphylaxis was a protein-cleavage product, and he was prepared to admit that such a product was the cause of the symptoms of serum sickness. Serum sickness was a comparatively simple illness compared with an attack of an acute infectious disease. When bacteria entered the body and became disintegrated by the action of the defensive chemistry there might be liberation of the special toxins with *later* the formation of a protein-cleavage product (anaphylatoxin). The initial and specific symptoms, including the prodromal rashes and the specific rashes, were due to the action of the special toxin. It was a fact that secondary rashes were, like the serum rashes, always either urticaria, a morbilliform erythema, or erythema marginatum. He suggested that they represented the reaction to the anaphylatoxin. It might be asked how was this true for the infectious diseases in which the bacteria do not invade the organisms but only their toxins, as diphtheria. He drew attention to what might happen after the injection of such a poison as novarsenobillon, a non-protein poison. It had been shown that an illness closely resembling serum sickness might occur 8 to 10 days after the first injection of the drug. The suggestion was that the drug (or toxin, in the case of a bacterial disease) acted on the proteins of the body in such a way as directly or indirectly to lead to the formation of a protein-cleavage product. In the post-acute stage of diphtheria, untreated with antitoxic serum, rashes, quite indistinguishable from serum rashes, were occasionally met with. His conclusion was that the symptoms of an attack of an acute infectious disease were due to two main causes—the special toxin and the protein-cleavage product common to all (anaphylatoxin). In some infections there were no very specific symptoms—for instance, in pyæmia and septicæmia—due to streptococci. Even in these diseases rashes were not infrequently met with, so-called septic rashes. They again were almost invariably erythema multiforme or erythema marginatum, with a predilection for the extremities, and especially their extensor surfaces. There were certain experimental and clinical reasons for supposing that within limits different proteins produced different symptoms. Dr. Gairdner Davidson had suggested that the three different serum rashes were each due to a particular protein—albumin, euglobulin, or pseudo-globulin, the three proteins of horse serum. The subject required further investigation. Even if this proved to be the case it would not militate against the general conclusion that the rashes of the acute infectious diseases were due to special changes produced by special toxins, and that the common changes were produced by a common toxin.

Dr. E. GRAHAM LITTLE said that the very title of the paper indicated a refreshing break away from the arid tradition chiefly due to the German school of dermatology with its important exponent, Hebra.

Hebra's view was very uncompromisingly expressed in his chapter on diagnosis, where he wrote: "For the recognition of a disease of the skin no other assistance is required than a knowledge of the objective symptoms which are visible on the body in each particular case. We do not attach any value whatever either to the history or to the subjective phenomena in investigating a cutaneous affection, for we ought to be guided in this matter only by those symptoms which are appreciable by the sight, the touch, or sometimes by the smell. These afford certain and infallible grounds for the establishment of a diagnosis, for they have their origin in the malady itself."

With this conception the views of Brocq, and the French school generally, were in the sharpest conflict; it was a real satisfaction to him to hear the much more philosophic conception of the French school supported so wholeheartedly. Brocq classified skin conditions in two great groups, one containing diseases which might be regarded as true entities, of which the parasitic were the leading type, and the other, a larger group which were envisaged as skin reactions conditioned by a variety of internal factors.

The modern conceptions of the *erythema group* had their origin in the work of a general physician, the late Sir William Osler. Attention was increasingly directed to hidden foci of sepsis, the teeth and the tonsils being regarded as especially suspect, but other foci should also be considered. He could recall a very persistent and baffling case of recurrent erythematous eruption which was, in the end, definitely proved to be occasioned by a septic cyst in the appendix, the removal of which brought about a complete cessation of the eruption. In the rare and formidable condition known as disseminated lupus erythematosus all the symptoms pointed to a systemic infection, the nature of which had hitherto eluded us. He was reluctant to accept a tuberculous causation of this disease, chiefly because of its excessive rarity in young children. In a large department for skin diseases in children he had never met with a single instance during 25 years, yet the statistics of the hospital showed that fully one-third of all the admissions were due to tuberculosis. As regards a streptococcal causation, he had recently had an opportunity of observing a very severe case with Dr. W. H. Willcox, and their attention was especially directed to tracing a streptococcus as a causative agent, but without success. Erythema nodosum was of particular interest, for recent investigation, especially by American workers, seemed to point strongly to an infective causation, and there were at least three candidates for this bacteriological rôle: (1) the diphtheroid organism demonstrated by Rosenow in 1915; (2) the tubercle bacillus; (3) a streptococcus. He had very seldom seen any evidence to support the view held by Stokes, for merging erythema nodosum with the tuberculides, and the apparent immunity conferred by an attack, the very curious sex differentiation, and again the infrequency in childhood, made this explanation difficult to accept.

In connexion with skin vessels he spoke of the "skin-capillary microscope," invented by Otfreid Muller, of Tübingen, by the aid of which the tissues of the skin were said to become visible to the level of the subpapillary plexus. Several German authors working with this instrument admitted that their researches went a long way to corroborate the older French theories of "diatheses."

He had recently seen a puzzling case of *herpes zoster* in a man of 60. Quite definite herpes zoster on the left side was accompanied by a very remarkable eruption, which had appeared simultaneously, of sporadic vesicles exactly like the herpetic lesions, but distributed very generally over the body and especially on the trunk. There were over 280 of these vesicles. It seemed possible that this was an instance of the association between herpes zoster and varicella, which had been a burning subject of late. His opinion of the case was that it was an instance of the so-called aberrant vesicles which were seen in herpes, but never, as far as he knew, in such abundance. There were neither fever nor constitutional illness of any degree, nor were there other cases of varicella in the house or family either before or after.

Dr. H. W. BARBER, speaking of *lupus erythematosus*, said that from a series of cases collected during the past two years strong evidence was obtained that a chronic infection by a *Streptococcus longus* was the most important factor in the causation. A certain number of patients with the disease showed the stigmata, which pointed to a massive tuberculous infection in early life, and cases had been published in which it was accompanied by active phthisis or even general tuberculosis. In none of his own cases had there been evidence of active tubercle.

Recently post-mortem results of two cases had been published by Cranston Low and Rutherford. In one there were old tuberculous foci but no evidence of active tuberculosis; in the other there was complete absence of any trace of tubercle. In both there was some evidence of acute infection with a *Streptococcus longus*, in one case from the mouth and bronchi, in the other probably from the tonsils. In all his own cases one or more septic foci had been present, from which a long chained streptococcus had always been obtained, sometimes in pure culture. Primary foci would seem to be usually, if not always, the teeth, the tonsils, and perhaps the nose and nasal sinuses;

the intestines and probably the lymph glands seemed to become secondary foci in long-standing cases. In a few cases, in which oral sepsis could be excluded, the tonsils were not considered septic at first examination; further examination, however, showed the presence of pent-up pus, and after enucleation they were found to be extremely septic. It was often very difficult to decide whether the tonsils were septic or not from clinical examination.

There was a close association between lupus erythematosus and rheumatoid arthritis. He had recently seen two cases of severe rheumatoid arthritis with lupus erythematosus, and a considerable number of his own cases of lupus erythematosus had shown definite rheumatoid changes in the joints, or complaint had been made of joint pains. In the acute form these two diseases might subside without leaving any trace; in the chronic form fibrotic changes occurred which led to scarring of the skin and deformity of the joints. With regard to the association of rheumatoid arthritis and streptococcal infection of the teeth and tonsils he instanced Mollison's series of cases of improvement or cure after tonsillectomy. Acute exacerbations of lupus erythematosus in chronic cases of the disease, with the development of widespread areas of erythema resembling erythema multiforme, and accompanied by pyrexia and joint pains, were often followed, after the subsidence of acute symptoms, by rapid involution of the chronic patches.

Speaking of the results of treatment, he said that early cases had recovered completely after the removal of septic foci. Chronic cases had shown gradual but progressive improvement after removal of foci and subsequent autogenous streptococcal vaccination, and some would probably eventually recover. In some cases the vaccine had caused so much local and general reaction that it had been discontinued, and a vaccine in which the organisms were killed at 70° C. was used instead, with promising results so far. Prognosis, as with rheumatoid arthritis, depended upon the length of time the eruption had been present. Removal of septic foci in early cases might suffice to cure; in chronic cases secondary infection of the intestines and lymphatic glands probably kept the disease active.

He had recently seen some cases of young people in which there was an association of *nævi with cirrhosis of the liver*. Three were girls under 20, and on the faces of all three there was an intense acneiform eruption accompanied by rosacea, together with numerous spider nævi. Nævi were also present elsewhere—e.g., on the arms. The appearance produced by the acneiform eruption and nævi was so striking that after seeing the first case it was possible to diagnose hepatic cirrhosis in the other two at a glance. Two of the girls died with ascites, and post-mortem examination revealed extensive cirrhosis. The fourth case was a small child of a few years old who had multiple spider nævi on the face, which were steadily increasing in number, and the liver was found to be very large.

Dr. H. G. ADAMSON said that at one period all skin eruptions were looked upon as the result of some general bodily disorder. They were regarded as the outward sign of some dyscrasia or diathesis. This idea still lingered in the popular view that all skin eruptions were eczemas due either to gout or to impurity of the blood. Even at the present time most medical men were inclined to attribute skin eruptions to some internal complaint, whereas the more we knew of them the more did we find that they were ascribable to purely external causes. Scabies and ringworm of the scalp were at no very distant date thought to be the result of some internal disorder. Many forms of eczema were now shown to be the result of external irritants, as in the various occupation eczemas, dermatitis due to hair-dyes, poisonous plants, &c. A quite recent example of this change of view was the recognition of the eczematoid ringworms of the extremities. The history of dermatology during the past 100 years was that of a continuous fight against this prejudice of attributing skin diseases to a hypothetical bodily disturbance.

The more accurately skin lesions had become described, the more clearly had a large number of distinct clinical types been recognised, each of which represented a distinct form of inflammatory reaction to some one specific harmful agent. Examples were the eruptions—i.e., the types of inflammatory reaction due to the staphylococcus, the streptococcus, the acne bacillus, the tubercle bacillus, the *Spirochæta pallida*, the various forms of mould fungus, actinomycosis, sporotrichosis, even to different varieties of ringworm fungus, and to different drugs and plants and chemical agents, each of which eruption was easily recognisable by the trained observer. Again, the eruption of the specific fevers were examples of characteristic reactions to specific microbes and were familiar to all. This being so, it seemed only reasonable to suppose that in the case of eruptions of unknown origin, each with its own distinctive features, we should look for a specific agent as the cause of each. It was not suggested that all these eruptions of unknown origin were due to external agents and that none of them bore any relation to internal disorders, for we knew that there were cases in which the eruption was due to a microbe brought to the skin by the blood stream, as in syphilis, some forms of lupus, and the specific fevers. But in such cases the eruption was not the result of the bodily illness, but a part of the complaint, in which the skin eruption represented an inflammatory reaction to the same microbes as caused the internal disorder. There was a third class of eruption due to a toxin brought to the skin by the blood stream and comprising the toxic erythemas, and dermatites of toxic origin. The term "toxic eruption" had been used for serum rashes, food rashes, and even drug rashes, after its first application to cases of generalised erythema reported after injections of old tuberculin and the use of antidiphtheritic serum. The idea had led to the suggestion that many eruptions of unknown origin, such as psoriasis, pemphigus, and lupus erythematosus, were caused by toxins the result of defective metabolism, toxins absorbed from the intestine, toxins due to altered internal gland secretion or the result of absorption from septic foci. Moreover, the conception of toxic dermatitis had led to the suggestion that eruptions due to general infections or general toxæmias were to be explained as phenomena of anaphylaxis or hypersensitiveness. Thus the eruptions of syphilis or the exanthemata might be regarded as cuti-reactions in a hypersensitised subject. Similarly, in the case of horse serum, foods, or drugs their eruptions might often be produced by minute quantities of the serum, food, or drug to which the patient had become hypersensitive. This acquired hypersensitiveness possibly helped to explain why the causes of many skin affections still eluded us, for the amount of toxin required to produce the eruption might be so minute as to be detected with difficulty.

What knowledge we had taught us to look for some one specific poison for each different type of eruption, and not to be content with a general hypothesis of endogenous toxins, altered internal gland secretion, or toxins from a septic focus. As an illustration erythema multiforme might be cited. We should expect to find the causative agent of this very characteristic eruption in some one specific microbe or toxin, which was responsible both for the internal symptoms and for the eruption on the skin. Epidemics of erythema multiforme and of Henoch's purpura occurred, together with similar symptoms, and it seemed possible that these two complaints were one disease due to the same causative agent.

There were few internal disorders which we could associate definitely with a skin eruption in the relation of cause and effect. Xanthoma diabeticorum, the pigmentation of Addison's disease, and some instances of alopecia and leucoderma associated with Graves's disease were all that could be named apart from such affections as herpes zoster, which seemed to be directly dependent upon organic nerve lesions. Although it was possible that other unexplained eruptions might be shown to be due to endogenous toxins from altered metabolism associated with visceral disease, this was, at present, merely a plausible hypothesis.

Dr. J. M. H. MACLEOD said that it seemed to him that just as the skin was an important and essential organ of the body, linked up directly or indirectly in its perfect functioning with every other organ, so any diseased condition of an organ, if it went on long enough, was liable to be associated with a disorder of the skin; and, on the other hand, any diseased condition of the skin, however local its ætiology, was liable to be influenced more or less profoundly by the general internal state. He would confine his remarks to the group of cutaneous affections in which a causal connexion could usually be established with some form of alimentary toxæmia—namely, urticaria and the so-called toxic erythemata, including the group known since Hebra's time as erythema multiforme.

Gastro-intestinal derangements resulting from improper diet had been blamed by certain observers as potent influences in the causation of eczema, and in certain quarters excessive meat-eating had been held to be responsible for the aggravation of psoriasis. These views were now no longer accepted. In infantile eczema it was rare to find the association of the skin affection with digestive disturbances sufficient to cause definite symptoms, such as vomiting and diarrhœa, and he did not remember ever having met with a primary attack of eczema in an adult which followed directly on a gastro-intestinal derangement. Urticarias and erythema multiforme were not now regarded as distinct diseases, but were looked upon as cutaneous reactions due to a variety of toxic irritants, and often associated with visceral disturbances, pain in the joints and

muscles, coated tongue, fever, and other evidences of a general toxæmia.

In urticaria an attack might follow the ingestion of some article of food which was poisoned, or of some food in itself innocuous but acting harmfully owing to an individual susceptibility or to an inflamed state of the gastro-intestinal tract. It was frequently observed in connexion with chronic recurrent urticaria that the primary attack was the result of some gross error in diet, while subsequent attacks resulted from an acquired susceptibility, and were produced by small quantities of the same food or of some other usually harmless article of diet. This anaphylactic phenomenon suggested that the poisonous food substance called forth a response on the part of the organism with the production of antibodies for that special food, so that after a time a second dose, even minute in quantity, was so rapidly disintegrated by the antibodies that toxic heterogenous proteins were formed which caused the cutaneous lesions. These foreign proteins were as subtle as they were virulent, and so far had escaped detection in the blood. In some cases the antibodies themselves might become absorbed, and be responsible for the cutaneous lesions.

The manner in which the urticarial reaction was called forth was unknown, and it was still a matter for discussion whether it was an angio-neurotic phenomenon due to irritation of the vaso-motor apparatus, either centrally or peripherally, by the toxin, or was an acute inflammatory process due to the local action of toxins on the cutaneous blood-vessels. When it was remembered that toxic substances, such as morphine and peptone, could produce urticaria when injected into the skin of a dog even after division of the sympathetic nerve to the part or the removal of the sympathetic ganglion, the latter explanation seemed the more probable. It was corroborated also by the observation that the fluid in a wheal was rich in albumin and more in the nature of an inflammatory exudate than a simple transudation of serum such as might occur in an angio-neurotic process. That there was some other factor there could be no doubt, as the inflammatory basis alone was insufficient to explain factitious urticaria.

The lesions of the toxic erythema group were also symptomatic of a general toxæmia, and seemed to result from the action of some toxin on the cutaneous blood-vessels. It was difficult to explain why a certain food toxin might cause urticaria in one person and an erythematous or bullous lesion in another. It might be said that food toxins of a protein nature tended to cause reactions of an urticarial or erythematous type, while bacterial toxins were more liable to give rise to bullous or purpuric lesions.

The work which had been done recently in protein sensitisation, chiefly in America, might eventually throw light on this difficult subject. In the meantime, it seemed to him that our greatest hope lay along the line of physiological chemistry, with the discovery of toxic substances in the blood, which up to now had eluded detection.

Dr. H. MACCORMAC spoke of the external parasitic or exogenous eruptions, and pointed out that internal order or disorder had a definite relationship to these local infections.

It was well known that ringworm of the scalp ceased at puberty, although at this time we could detect no microscopical, chemical, or physical change in the hair or its surroundings. Nevertheless, some extraordinary alteration must have occurred in consequence of the establishment of certain internal secretions, which might be inhibitory, as in this case, or have an effect in the causation of the disease, as in acne vulgaris, which begins about puberty. From the pustules of acne could be obtained a staphylococcus, and in some cases almost dramatic results might be obtained in acne from the use of staphylococcal vaccines, but here the infection only has been notified. On the other hand, in bromide acne the infection was secondary, and depended upon preparation for it by a previous alteration of the tissues. As pointed out by Sabouraud, the masculine type of baldness was a condition which depended upon the different functions of sex, but it also depended upon local disease of the scalp, and could be modified by treatment. These observations supplied further evidence of a general or determining element in apparently local disease.

Referring to another general factor capable of influencing local cutaneous infections Dr. MacCormac said that the frequency of scurvy among the Eskimos was well known, but it was not so generally known that they were also liable to another deficiency disease called "kallak." This occurred in epidemics, and was characterised by intense itching, and by the appearances of pustules on the hands, elbows, buttocks, and other parts. It appeared when there was insufficient fresh seal-meat, or when the herring crop failed, and was cured when these foods were freely obtained; it was thought to be due to the lack of some fat-soluble vitamine, a belief supported by known facts.

ROYAL SOCIETY OF MEDICINE.

SECTION OF PATHOLOGY.

EXHIBITION OF SPECIMENS.

A MEETING of this section of the Royal Society of Medicine was held on Feb. 15th, Dr. J. C. G. LEDINGHAM, Vice-President, being in the chair.

Dr. MACKENZIE WALLIS gave a demonstration on Estimation of Sugar in the Blood.

Dr. A. E. GOW showed a specimen from a case of *Infective Endocarditis Complicated by Fat Necrosis.*

The patient from whom this specimen was obtained was a distiller's carman, aged 37, who was admitted to hospital in June, 1920, suffering from subacute bacterial endocarditis.

The infecting organism was a minute Gram-negative bacillus, which was obtained on only two occasions by blood culture, and then under aerobic conditions in broth. All attempts to induce it to grow in subculture on solid media made by Dr. Gordon Mervyn and himself were unsuccessful. The organism was found in large numbers in films of the valvular vegetations post mortem. The leucocyte count was between 4000 and 5000 per c.mm. As is commonly seen in cases of infective endocarditis, the urinary output, except towards the end, was relatively high, averaging between 1600 and 2000 c.cm. in the 24 hours, and there was a remarkable constancy of the specific gravity of the 24-hour specimen of urine, which was independent of the quantity of urine passed. Albumin was always present, varying from a "faint trace" up to 0·225 per cent. (Esbach). Blood, except for one period of three weeks' duration, was practically a constant constituent of the urine, often in quantity sufficient to be appreciated by the naked eye. Post mortem both kidneys showed cloudy swelling and a slight degree of embolic focal nephritis, but were not extensively "flea bitten." The left kidney contained a small subcapsular infarct of some standing. Microscopically they showed a diffuse nephritis. Many of the Bowman's capsule spaces were dilated and the epithelium covering the tufts was swollen and proliferating and there was some adhesive glomerulitis with peri- and intra-glomerular fibrosis. Some glomeruli were transformed into fibrous hyaline masses. There were small areas of round-celled infiltration in the stroma of the cortex, the cells being chiefly plasma cells and lymphocytes. The smaller arteries showed marked arterio-sclerotic change.

Infarcts occurred in the skin, spleen, and kidney. (*a*) The skin: On admission, six weeks after the onset of symptoms, a few small purpuric spots were scattered about the body; in addition a maculo-papular erythematous rash was present on legs and trunk, being most marked on the front of the legs. On the abdomen both fading and fresh macules were present; this rash was of short duration and did not recur. No fresh petechial hæmorrhages were observed for nearly a month, when a crop appeared on the right side of the abdomen and back; after an interval of two months there was a fresh shower. During the last three weeks of his illness fresh petechiæ were found almost daily on the legs and forearms, and a day or two before death large subcutaneous hæmorrhages occurred on both thighs. Osler nodes also formed in the fingers. (*b*) The spleen: A splenic infarct occurred 22 weeks before death. On the day in question he vomited at 6 P.M., complained of sudden sharp pain in the left flank which lasted for five minutes, followed in half an hour by a rigor and temperature of 103·6° F. The next day loud friction was heard over the spleen. At the post-mortem examination three recent infarcts were found in the spleen in addition to one old one, the latter being the largest. It was limited by a well-marked capsule, the infarcted area was appreciably depressed below the surface level of the surrounding spleen, it was yellowish in colour and almost cheesy in consistence, but there was no macroscopic calcification. Sections of this old infarct showed complete necrosis and loss of structure; the area was enclosed in a thick, fibrous capsule in which were cells laden with golden-brown pigment granules. Calcification was beginning at the margin.

Diffuse fat necrosis was found involving the subperitoneal tissue of the anterior abdominal wall, mesentery, and omentum, and the perirenal and peripancreatic fat. There was no fat necrosis in mediastium. On the lower border of the pancreas, near the head, was a small area much softer to the touch than the firm gland surrounding it. This area was dark in colour and in its neighbourhood fat necrosis was most marked, the small white opaque patches being here confluent. At the time of the autopsy this was considered to be an infarct, but histological examination showed that the gland tissue was not involved, the fat necrosis being entirely extrapancreatic. Considerable dilatation of the ducts of the gland existed, but the actual

cause of the necrosis had not been determined. Fat necrosis began, Dr. Gow believed, either on the thirteenth or twelfth day before death. Attacks of vomiting, with or without abdominal pain, occurred throughout the illness; in the early stages the attacks were infrequent, lasting a day or two, but towards the end they recurred at shorter intervals. On the twelfth day before death his condition appeared much worse and he became afebrile. He vomited in the morning and in the evening began to complain of a sharp pain in the epigastrium, which was increased by coughing, and there was a rise in pulse frequency from the nineties to 110 for six hours. From then onwards he went downhill rapidly; vomiting of large quantities of fluid took place at increasingly frequent intervals—thus on the eleventh day before death he brought up 700 c.cm. in five attacks, while on the fourth and third days he vomited 15 times, producing 2525 and 5350 c.cm. respectively.

The duration of the disease was 34 weeks. There was no history of rheumatic fever or other cause of endocarditis, which was, Dr. Gow believed, unusual in cases of infection with Pfeiffer-like organisms, but he had seen another example recently of an apparently primary influenzal endocarditis. Histological examination of the aortic cusp showed marked fibrotic thickening and the cusp was traversed by numerous blood-vessels containing an excess of polynuclear cells which also infiltrated the surrounding tissues. An old vegetation was extensively calcified, making it probable that he had previously suffered from endocarditis. The heart muscle showed advanced but patchy fatty degeneration, some brown atrophy, and perivascular fibrosis. Slight, but quite definite, clubbing of the fingers was noted on admission, six weeks after the onset, but did not increase appreciably up to the time of his death.

Influenzal Meningitis of the Spinal Cord.

Dr. T. H. G. SHORE showed a specimen of the spinal cord of an infant who died from meningitis.

The arachnoid space was filled with purulent exudate, mingled with which were areas of hæmorrhage; these did not appear to be additional to the pus, but rather the precursors of it, the infective process spreading in the effused blood. The inner surface of the dura was involved, and at the autopsy was adherent to the underlying structures, from which it had been separated afterwards in part only. Pfeiffer's bacillus was found in the cerebro-spinal fluid before death and cultivated from it. No other organism was present. There was purulent meningitis of the brain, mainly affecting the base, with ependymitis and distension of the ventricles with pus. The immediate cause of death was probably a hæmorrhage, which was found to occupy the left lateral ventricle and to have arisen from the choroid plexus. There was some purulent exudate in both middle ears, but this contained other organisms besides Pfeiffer's bacillus. The lung and air passages showed no abnormality. The child was a male infant of 10 months, breast fed, who fell out of bed three weeks before admission to hospital; afterwards he had not been well, occasionally vomiting and refusing his food. A week before he was seen the child became apathetic, took no notice of surroundings, but had no fits or further vomiting. There was high fever and pulse-rate, with irregular and rapid respiration, slight retraction of the head, and a fine tremor of the right hand. The blood was sterile.

Dr. SHORE also showed

The Right Knee-joint from a Case of Hæmophilia.

Hæmorrhage was present, and even after prolonged hardening in Kaiserling's fluid much of the effused blood was in a fluid state when the joint was opened. The various pouches of the joint were filled with blood, and the articular surfaces were stained by it. The synovial membrane appeared to be somewhat thickened, but histologically there was little abnormality. The cartilage of the upper end of the tibia was somewhat discoloured to a considerable depth at one point, but it was the point of attachment of one of the crucial ligaments; a similar condition was seen on the femur. The cut sections of the condyle of the femur and of the patella showed small cavities in the cartilage, some of which contained blood-vessels. The specimens were obtained from a male child, aged 4½ years, whose three brothers were healthy; all five of the maternal uncles died from hæmophilia. The boy was known for nearly four years to have had the disease, and had been in hospital on several occasions. The case had already been reported[1] by Vines, who was able to shorten the coagulation time of his blood by inducing anaphylaxis. He was brought to hospital last June, having bitten his tongue while cracking nuts with his teeth. Horse serum had no effect upon the hæmorrhage, but it was checked by a transfusion of 50 c.cm. of his father's blood. Bleeding started, however, from the operation wound and this, though small, led to his death.

[1] Quarterly Journal of Medicine, 1920.

Dr. SHORE also exhibited a specimen showing

Retrograde Extension of Carcinoma in Lymphatics.

The specimen was one of a coil of small intestine over the surface of which were several dilated lymphatic vessels; these appeared to be filled with chylous fluid, but were in reality solid. They were in direct communication with some lymphatic glands at the origin of the mesentery, which formed part of a large mass of retro-peritoneal glands surrounding the aorta and inferior vena cava and the head of the pancreas. The situation of the primary growth was not determined with certainty, but was probably in the stomach, where were several malignant ulcers and some submucous metastases. Other secondary deposits were found in the pulmonary glands and beneath the visceral pleura. Histologically the growths were spheroidal-celled carcinomata, and a section of the wall of the intestine showed growth in the subperitoneal and submucous lymphatics as well as in the lacteal vessels of the villi. There seemed no way of explaining this condition but to suppose that the carcinoma had grown backwards against the direction of the lymph flow. The specimen was removed post mortem from a man, aged 39, who was under the care of Mr. G. E. Gask, having come to hospital with ascites and constipation of five days' duration. He had had symptoms of dyspepsia for six months, and lately some vomiting and melæna. Exploratory laparotomy revealed the presence of growth and pseudochylous ascites. He died one month after he was first seen.

Dr. E. H. KETTLE showed specimens of: (1) a Congenital Sacral Teratoma; (2) a Primary Chancre of a Finger following Trauma.

SECTION OF ANÆSTHETICS.

A MEETING of this section of the Royal Society of Medicine was held on Feb. 4th, with Dr. H. J. SHIRLEY, the President, in the chair, when a paper was communicated by Dr. S. ROWBOTHAM and Dr. I. MAGILL on

Anæsthetics in the Plastic Surgery of the Face and Jaws.

The paper was based on 3000 cases at Queen's Hospital, Sidcup. After alluding to the physical and mental peculiarities of the type of patient and to the number of times each of them generally required an anæsthetic, the authors divided the cases into those in which the anæsthetist has control of the mouth and those in which he has only the nose at his disposal. In all cases the main difficulty is that of maintaining a proper air-way. When the mandible is altogether or largely missing a long blunt instrument is employed through the mouth to hold up the base of the tongue during induction. Technique was described rendering possible the use of nitrous oxide for induction in patients with broken or abnormal jaws. Intratracheal insufflation proved to be the most generally applicable method. The authors had devised means for employing gas and oxygen with this method, generally combining the gases with small amounts of ether. The methods of passing the catheter through the nose and guiding it into the larynx by specially devised instruments were described. Frequently dilatation of the nares by a series of tubes was required, and often a tube was used through each nostril. The use of nitrous oxide and oxygen, with or without the aid of local infiltration, was described in connexion with superficial flap operations. The necessary steps were described for avoiding chest complications, which are to be feared owing to the length of time required by most of the operations dealt with. These averaged one and three-quarter hours and were often over three hours. In 1700 cases there had been only four instances of bronchitis and two of pneumonia.

Discussion.

Mr. H. E. G. BOYLE feared that the dilatation of the nose, as described, was very likely to cause bleeding. His own experience of passing nasal tubes was that although one side of the nose was usually free it frequently happened that it was almost impossible to pass a second tube through the other nostril. He believed that colonic oil-ether anæsthesia was too uncertain for the class of case discussed and also that the long unconsciousness afterwards was a drawback. His present preference for these operations was a combination of gas and oxygen and C.E. mixture.

Mr. G. RAMSEY PHILLIPS pointed out that a catheter passed through the nose could usually be guided into the larynx by altering the position of the patient's head, without using an instrument through the mouth.

Dr. W. J. MCCARDIE said that in a large experience of the kind of case dealt with by the authors he had used very simple methods. Nasal or oral intubation with "draw-over" inhalation from a mask or plain gauze had generally given good results. Nasal tubes should have a large lumen and be comparatively stiff. There were certain advantages in the use of chloroform for these cases, little oozing and quiet respiration and circulation.

Mr. L. KIRKBY THOMAS said that he induced with C.E. mixture from an open mask, passed a wide rubber tube down into the pharynx and packed this round with gauze and then passed the delivery catheter of a Junker's inhaler into the tube. The catheter was kept in position by pressure against a safety-pin transfixing the pharyngeal tube.

Dr. F. E. SHIPWAY considered intratracheal ether far superior to the older methods for these face operations. Nasal tubes frequently cause damage with considerable bleeding, and he believed that there was a risk of conveying septic infection if a catheter were passed through the nose into the trachea.

Mr. C. T. W. HIRSCH described a tap for allowing small portions of ether to be taken up when it is required to supplement gas and oxygen with this anæsthetic, and Mr. ERIC GANDY also spoke.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AN ordinary meeting of this society was held on Feb. 18th at 1, Upper Montague-street, W.C., Dr. F. E. FREMANTLE, M.P., the President, being in the chair.

A portrait of Professor H. R. Kenwood, C.M.G., the ex-President, was presented to the society on behalf of the Metropolitan and Home Counties Branches. Its acceptance was asked by Dr. W. M. WILLOUGHBY, President of the former, and Dr. J. M. CLEMENTS, of the latter, and accepted by Dr. FREMANTLE. Professor Kenwood's great services during his two years' presidency were referred to with appreciation, especially in connexion with the reconstruction of the society and the formation of the various groups into which it is now divided. This was effected under Professor Kenwood's guidance with complete success. Twenty-four new members were elected at the meeting.

An address on

International Organisation and Public Health

was delivered by Dr. G. S. BUCHANAN, senior medical officer to the Ministry of Health, which appears in full in the front of our present issue.

The PRESIDENT, in expressing the unanimous thanks of the society to Dr. Buchanan, said that the nation was greatly indebted to the lecturer for his personal work as representative of this country in the international sphere. The address reminded them that their own interests, though infinitely wider than that of most of their fellow citizens, were narrow in comparison to the broader field which he had opened up to them.

Dr. T. H. C. STEVENSON, superintendent of statistics, General Register Office, speaking of the difficulties in overcoming the hidden differences in the nomenclature of death statistics in various countries, said that last year's international conference in Paris was an example of "how not to do it." It was hopeless to deal with such a subject by occasional large conferences lasting only a few days, and a smaller and permanent representative body was needed for the purpose. He asked Dr. Buchanan what he thought of the 12 days' quarantine imposed at New York for three cases of typhus.

Dr. W. PERRIN NORRIS, chief medical officer of the Australian Commonwealth Medical Bureau in London, said they had to break down barriers and realise the interdependence of all public health administrations, great and small. Uniformity in food legislation was greatly needed, and Dr. Norris referred to the fact that Norway had adopted laws in this connexion which had had their birth in one of the Australian States. The work did not concern only infectious disease. They had to think more of positive health—the joy in life—rather than of the mere absence of disease. What was wanted in international health relationships was, in Danton's phrase, honesty! honesty! honesty!

Dr. W. M. WILLOUGHBY, M.O.H., Port of London, spoke appreciatively of Dr. Buchanan's paper on the hitherto misty subject of international health agreements. All such agreements were in the end educational, and it must fall to a few nations to educate the others. The British regulations of 1907 in regard to cholera, yellow fever, and plague were far ahead of the conclusions of the international conference of 1912. The Americans were now reported as doing something which was medically unthinkable—the holding up of ships for a prolonged period in dealing with something (a few cases of typhus) quite within their control and dependent on a carrier on which they could put their finger, and which was not even microscopic. The risk even was not great enough to justify such measures. In some centres there was, of course, the possibility of danger, but this was practically obviated by being known. The experts could not have been in touch with the Government. Such matters should be left to the experts and not to the diplomats.

Dr. A. H. BYGOTT, M.O.H., West Suffolk, regretted that there was not more travel abroad on the part of British medical graduates. He referred to the lack of uniformity in the medical examination of emigrants in various ports, and expressed the opinion that they should not be allowed to embark at their home port unless they complied with the requirements of the country of their destination. Many ports had M.O.H.'s not specially qualified for the post. The port sanitary work in London was admirably done. The hygiene of ships was very defective, and much money and trouble would be saved to the shipping companies by an efficient and better-paid medical service on ships. More might be done for the treatment of venereal diseases on shipboard, especially irrigation for gonorrhœa.

At this stage the President left, and the chair was taken by Dr. C. SANDERS, M.O.H., West Ham.

Dr. C. PORTER, M.O.H., St. Marylebone, in thanking Dr. Buchanan, remarked that in future they would have to rely more and more on the port medical officers, who were doing a fine work.

Dr. BUCHANAN, in reply, thanked the meeting for their reception of his address, and said that he was glad of the opportunity, which he had not previously had, of describing to a medical or wider public the preliminary work which had been done in the establishment of an international health office. In regard to epidemic diseases, there ought to be direct interchange of information between health office and health office. When it passed through non-technical officials there was a tendency to suppression of facts which frightened them, and a good deal of existing difficulties were due to that. Such channels of communication ought to be short-circuited. He agreed with the remarks which had been made on the subject of the medical examination of emigrants, and also with Dr. Willoughby's point as to the need for the education of the smaller—and in some cases of the larger—countries.

NAVAL, MILITARY, AND AIR FORCE HYGIENE GROUP.

A MEETING of this group of the Society of Medical Officers of Health was held at the house of the society, 1, Upper Montague-street, on Feb. 4th, the President, Professor H. R. KENWOOD, being in the chair. Amongst those present were Sir ROBERT HILL, Director-General of the Naval Medical Department; Sir JOHN GOODWIN, Director-General of the Army Medical Service; Surgeon Rear-Admiral P. W. BASSETT-SMITH; and Brigadier-General W. W. O. BEVERIDGE, Director of Hygiene, War Office.

Lieutenant-Colonel J. ROBERTSON was elected a Vice-President and by-laws of the group were adopted.

The PRESIDENT, in introducing Surgeon Commander R. ST. G. S. BOND, Professor of Hygiene at the Royal Naval College, Woolwich, to read his paper on

Some Recent Improvements in Hygiene of the Royal Navy,

expressed on behalf of the group appreciation at the presence of the Directors-General of the Navy and Army.

Commander BOND said he particularly welcomed the formation of this group because it offered an opportunity to air the difficulties which beset naval hygiene from time to time and to receive criticism of our methods and suggestions from members whose wide experience in the military and civil health problems greatly qualifies them to offer.

Up to 1918 coöperation in hygienic matters was practically non-existent. The Naval Medical Service as a whole was a closed box to the outside world. There was no special health service. Within recent years, however, certain inducements and facilities have been offered to selected naval medical officers to obtain public health diplomas, and amongst these the establishment of a naval health service was the most important. The lecturer indicated the administrative procedure in detail and drew attention to the coöperation which now existed between the Naval Medical Service, on the one hand, and the Ministries of Health, Air, Agriculture, Shipping, &c., the War Office, medical officers of health, port sanitary authorities, &c., on the other hand.

After speaking of the importance of the department of civil engineers in the Service in regard to naval health and sanitary arrangements, Commander Bond went on to discuss the best methods of ventilating modern warships. The chief difficulty in this respect lay in the fact that fighting efficiency was the main object in the construction of the ship, and that ships might be sent to parts of the world where there are extremes of temperature. He said that the essentials of good ventilation in a ship were (1) the circulation of a sufficiency of fresh air; (2) the distribution of such air without creating draught; and (3) the maintenance of a suitable temperature. The conditions in a modern iron ship were like those in a bottle, through the neck of which fresh air had to gain access and foul air to escape. When a ship is in action the whole difficulty of ventilation is greatly increased, as in the supply of fresh air by artificial means poisonous gases may instead be supplied. This was a matter which was to receive further and urgent consideration.

Artificial ventilation in warships was carried out by three methods: (1) the plenum system; (3) the exhaust system; and (3) a combination of these two systems. The first was used for living spaces, a natural exhaust being trusted to. Fresh air was drawn through inlets or cowls and propelled by electric fans along steel tubes for distribution in the spaces or compartments requiring ventilation. The object was to introduce fresh air at the rate of 50 cubic feet per minute per man or 3000 cubic feet per hour. With a view to avoiding draughts, metal deflectors are placed in the trunks opposite each grating in the compartments, which by adjustment give a limited flow through each grating. When deflectors are fitted to a new ship a formula is used to make the adjustment so that a limited flow of air is directed to each outlet grating and no unpleasant draught is perceptible at more than a foot away, even when 100 cubic feet of air per minute are issuing from the grating. The maintenance of a suitable temperature was obtained by passing the cold air over thermo-tanks which were merely receptacles containing tubes through which steam passed under low pressure to warm and dry the air. A by-pass was fitted, in addition, to admit of cold air in certain proportions being mixed with the heated air. A suitable temperature is regarded as from 55° to 60° F. Such an arrangement required the closest supervision. No attempt had been made in tropical climates to supply cooled air. The exhaust system was applied exclusively to those places where great heat and vapour, foul odours, or dangerous gases were generated, whilst a combination of the systems was used for medical dressing-stations and operating rooms.

It was unfortunate that the Board of Construction did not have as one of its members the medical officer on the staff of the Medical Director-General whose duties were specifically connected with hygiene and the ventilation of ships in particular. He inspected ships only on completion, when frequently his suggestions for improvement were such as to be impracticable owing to structural difficulties. Regular observations on readings of the wet- and dry-bulb thermometer in the living spaces were taken and samples of air collected in special bottles for analysis at the R.N. laboratory at Greenwich. Any degree of CO_2 from 12 parts per 10,000 upwards indicated faulty ventilation.

In regard to accommodation 200 cubit feet has been fixed as the allowance per man, and whilst no special floor or deck space was fixed the spacing between hammock hooks must not be less than 20 inches. Formerly it was 16 inches, a condition which led to much overcrowding. In the old navy the diseases most prevalent were scurvy, small-pox, and dysentery. These had been overcome. Now they were chiefly respiratory infections. Modern conditions in a man-of-war might be said to increase this liability, and thus tuberculosis was our present-day scourge. In spite of the energetic steps which have been taken the incidence of tuberculosis in the navy still remained high and was the highest cause of invaliding out of the Service, although since the war this incidence happily has showed a marked tendency to decline.

The main preventive measures were careful physical examination on entry and early diagnosis of the disease. All men in ships were now weighed once a quarter. Men showing loss of weight or a deficiency in weight were subjected to careful examination. Suspected cases were sent to the larger hospitals, where every facility for diagnosis was at hand. Actual cases are transferred to huts in the hospital grounds conducted on the lines of a sanatorium, and later the cases are invalided out of the Service on full disability for a period of treatment in their local district. A combined Service sanatorium would prove a useful institution where discharged tuberculous men might be rendered fit to engage in the business of life subsequent to their service.

Discussion.

The PRESIDENT, in thanking the lecturer for his extremely interesting paper, referred to the birth of a Naval Health Service as marking a very important development in connexion with the health of the navy. The system of ventilation adopted was a completely scientific one, and he expected that valuable results would accrue therefrom.

Sir JOHN GOODWIN, like the President, was anxious to know whether the deflectors were in any way accessible to the men, since his experience was that ventilating shafts contained anything from a pair of socks to parakeets. To his knowledge there was an increased incidence of sickness on transports as compared with warships.

Sir ROBERT HILL was able to testify that the installation of naval health officers had created a fine liaison system between medical officers of health and the navy. During the war the question of poison gas or of the admission of T.N.T. into a ventilation system had to be taken into account, and one had to consider how much artificial ventilation one dared allow during an action.

General BEVERIDGE referred to the excessive overcrowding of the American transports. They lost 1 per cent. of their men from pneumonia, and a further 1 per cent. from men landed sick from the transports. During the influenza epidemic in the winter of 1918–19 every effort had been made to introduce greater space between the men on transports. Hitherto there had been as much space allotted as they would have had in their coffins. There ought to be a 30-inch distance between men's heads, and a superficial area of 13 sq. ft. The ventilation of dead ends was a great difficulty, and the method found to be most efficient were blowers which introduced air at floor-level. The speaker referred also to the different forms of apparatus used in ventilation, such as cowls and cowl shafts, windsails, and wind-scoops, and considered the use of the wet- and dry-bulb thermometer not only provided practically all that was wanted as regards the state of ventilation, but produced more reliable results. Three-quarters of infectious disease were due to respiratory transmission, which was one of the strongest arguments in favour of increased accommodation.

Surgeon Rear-Admiral BASSETT-SMITH considered that tuberculosis was of more importance than syphilis, and advocated the establishment of a Service sanatorium and the thorough examination of all men such as stokers and stewards who joined the Service later in life as a rule than the ordinary ratings.

Captain TATE also spoke and Commander BOND replied briefly.

The lecture was illustrated with diagrams and apparatus was exhibited.

Major W. N. W. KENNEDY, Town Hall, Croydon, is the honorary secretary, and will be glad to receive the names of intending members and to answer any communication.

LIVERPOOL MEDICAL INSTITUTION.

AT the last meeting of the Pathological Section, with Dr. J. E. GEMMELL, the President, in the chair, Mr. ROBERT KENNON read a paper on

TUMOURS OF THE PAROTID GLAND.

The material upon which the paper was based consisted of 124 parotid tumours removed at the Royal Infirmary, together with pathological reports and slides obtained from Professor E. E. Glynn and the private collections of Mr. R. Parker, Mr. F. T. Paul, and Mr. Thelwall Thomas. On analysis of this extensive material 91 cases were found to be adenomata, 27 carcinomata, and the remaining 6 sarcomata. In 38 cases of the adenomata after-histories had been obtained; 22 were alive and well, after an average period of 11 years; another had died without recurrence seven years after operation. Five had had recurrence. The tumour appeared most frequent in females; the age at onset averaged 30 years, the age at operation 37 years, giving an average delay of seven years before surgical aid was sought. There was a history of trauma in four cases. Pathologically Mr. Kennon considered the tumour to be an adenoma with mucinous degeneration, and later with regeneration as cartilage. There was no evidence to support a branchial or endotheliomatous origin of these tumours. Recurrence was shown to be due to insemination of the field of operation with fresh cells, which were found to be most healthy on the under side of the tumour and frequently split the capsule. The recurrence was immediate in five out of nine known dates, and averaged 1½ years; the second operation took place on the average after 5·5 years' delay. In three previous cases the subjects of recurrence had remained well for over five years. No evidence was obtained that operation hastens recurrence or shortens the life of a patient. Carcinoma of two types, the spheroidal and the cube-celled, were found; 35 per cent. of these originated in simple tumours. The malignant change in a simple tumour occurs more frequently in females about the age of 40. Pain, rapid growth, early fixation, and facial paralysis characterised these tumours. Lymphatic glands were involved late. Sarcoma, round and spindle-celled varieties occurred; one case traced died five years after the onset of the disease and two years after operation. Radium had beneficial effect on certain cases of simple origin.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

SHORTNESS OF BREATH.

A MEETING of this society was held on Feb. 9th, when a discussion on this subject was opened by Dr. L. E. V. EVERY-CLAYTON, the President. He gave a brief review of the physiology of respiration, and divided the causes of shortness of breath into inhibitions of respiratory movement, occlusion of air-passages, and changes in the composition or intrapulmonary circulation of the blood. He gave examples of each group and made a number of propositions to furnish a basis for discussion.

Dr. J. R. CHARLES demonstrated and explained Professor L. S. Fridericia's apparatus for measuring the carbon-dioxide content of the alveolar air. He showed that dyspnœa was caused whenever an increase of the circulating acids, volatile or otherwise, stimulated the respiratory centre to increased effort, and instanced the air-hunger of diabetic coma and of salicylate poisoning, as well as the dyspnœa accompanying muscular effort and provoked by excess of lactic acid. He drew attention to some of the discrepancies to be observed in pulmonary disease, where a small lesion, such as an infarct, might cause more dyspnœa than was often encountered in much grosser lesions of the lung.

Professor F. H. EDGEWORTH discriminated between subjective breathlessness and quickened respiration, and instanced "Cheyne-Stokes" breathing as a condition in which the patient had little or no discomfort. In pneumonia, with a respiration-rate of 40 per minute, there might be no subjective dyspnœa, but a patient with bronchiolitis breathing at the same speed would feel very short of breath. He also alluded to hysterical quickness of breathing.

Dr. J. O. SYMES mentioned some of the conditions in which it was difficult to explain the dyspnœa present, remarking that in cases of cardiac disease without murmurs it was apt to be a prominent symptom, and that in emphysema of the lungs it was often difficult to determine whether the shortness of breath was due to the emphysema itself or to the myocardial degeneration and the obesity which so often accompanied it. He also spoke of the dyspnœa of hyperthyroidism and of mediastinal tumour.

Dr. C. F. COOMBS gave a brief account of the origin of dyspnœa in cardiac disease, speaking particularly of conditions of deficient aeration due to right heart failure, and also summarised recent work on the part played by acidosis in the causation of "cardiac asthma" and allied disorders of respiration. He pointed out that even in the presence of organic disease of the heart the nervous element had to be considered.

Dr. R. G. GORDON said that he was impressed by the part played by the endocrine glands and the autonomic nervous system in the production of dyspnœa, and instanced the effect of emotion and of adrenalin in relieving asthma.

Dr. E. H. E. STACK asked how it was that children with evidence of acidosis might nevertheless be free from dyspnœa.

Dr. CECIL CLARKE spoke of the disproportionate dyspnœa of early tuberculosis of the lung, which he thought might be due to the action of bacterial toxins, a proposition which he supported by quoting the fact that pneumococcal infection of tissues other than the lung can quicken the respiration.

Dr. J. A. NIXON described his war experience of gunshot wounds of the chest. He showed that in these the dyspnœa was not proportional to the extent of lung injured or to the bulk of intrapleural extravasation. He showed that infection of the blood within the pleural cavity quickened respiration, and also gave examples to show that displacement of the mediastinum directly, and irritation of the pleura reflexly, had great influence on the degree of dyspnœa.

Dr. H. H. CARLETON confirmed, from his experiences in the artificial induction of pneumothorax, what had been said as to the importance of the pleural reflex.

Dr. O. H. WOODCOCK gave a brief account of a case of Hysterical Dyspnœa due to a psychoneurosis.

Dr. R. C. CLARKE said he had also noted that infection of the contents of a hæmothorax quickened the respiration.

The PRESIDENT, who had from time to time guided the discussion by interpolations, briefly summed up, congratulating the society on having brought forward so much that was interesting and instructive.

LONDON HOSPITAL MEDICAL SOCIETY.—**Mr. Eardley Holland** will give his address on Wednesday, March 9th, not on the 10th, as previously stated, his subject being, Cæsarean Section: the Modern Operation and its Modern Indications.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM: ANNUAL CONGRESS, 1921.—The next annual congress of the society will be held on May 5th, 6th, and 7th, at the Royal Society of Medicine, 1, Wimpole-street, London, W.1. The arrangements will be as follows: On Thursday, May 5th, in the morning, the President, Mr. J. Herbert Fisher, will deliver his opening address, to be followed by a paper by Mr. Maitland Ramsay on a Case of Cyclitis associated with Swelling of the Parotid Glands. In the afternoon a discussion on the Psychology of Vision in Health and Disease will be opened by Professor C. Spearman, F.R.S., and Sir F. W. Mott, and Mr. J. H. Parsons and Sir Robert Armstrong-Jones will speak. At 5 P.M. the Bowman Lecture will be delivered by Mr. E. Treacher Collins on Changes in the Visual Organs Correlated with the Adoption of Arboreal Life and the Assumption of the Erect Posture. Members will dine together in the evening. On Friday, May 6th, the morning session will be given up to a discussion on the Treatment of Manifest Concomitant Strabismus, to be opened by Mr. C. Worth and Mr. A. J. Ballantyne, followed by Mr. E. E. Maddox and Sir Arnold Lawson. In the afternoon a visit will be paid to St. Thomas's Hospital, which will be open for inspection. A Clinical Meeting will be held and members are invited to show cases of interest. At 8.30 P.M. Lieutenant-Colonel H. Herbert will read a paper on Results of the Iris-prolapse Operation for Glaucoma. The morning of Saturday, May 7th, will be devoted to a business meeting followed by papers. The optophone will be demonstrated in the Bowman Library during the Congress. Members desirous of offering communications, which must be typewritten, or of taking part in the discussions, are requested to communicate as soon as possible with Mr. F. A. Juler, 14, Portland-place, London, W.1.

Reviews and Notices of Books.

NOUVEAU TRAITÉ DE MÉDECINE.

Edited by G. H. ROGER, F. WIDAL, and P. J. TEISSIER. Fasc. I., Maladies Infectieuses. Paris: Masson et Cie. 1920. Pp. 482. Fr.35.

THE first volume of this treatise is a comprehensive French work on systematic medicine on the lines of the English work of Allbutt and Rolleston and the American Osler and McCrae. It is published under the general editorship of Professors Roger, Widal, and Teissier, supported by an influential committee of more than one hundred savants. Twenty-one volumes are contemplated, and, as the editors state in the preface, the work is intended to replace the well-known treatise of Charcot, Bouchard, and Brissaud, published in 1891. The scope of the work can be gauged, in general terms, by the "plan" given at the beginning of Vol. I. Starting with infective and parasitic diseases, an account of which is designed to occupy the first five volumes, the plan gives summaries of the contents of volumes dealing successively with intoxications, vitamines, disorders of metabolism and of the endocrine glands, diseases of the cardio-vascular, respiratory, digestive, urinary, and nervous systems; and concludes with a volume on the muscles, bones, and joints. In some cases two or more volumes are to be devoted to one section; for example, the diseases of the alimentary tract will occupy three volumes.

In the first three paragraphs of the preface the several editors have set before the readers high ideals. They point out that a great catastrophe has turned the world upside down and placed before the minds of modern physicians all manner of new problems. They aim at utilising the lessons of war in learning the further lessons of peace, and they appeal to the nations to coördinate their efforts in a great attempt to diminish human suffering. Professor Roger opens the description of the infective diseases with a short historical introduction of the subjects of infection, contagion, and auto-inoculation, sketching the progress which has taken place in the study of these problems, from the earliest times to the modern days of Koch and Pasteur.

The chapters of the first volume deal with various diseases produced by the following organisms: streptococcus, pneumococcus, staphylococcus, *Micrococcus tetragenus*, enterococcus, the influenza bacillus of Pfeiffer, the pneumobacillus of Friedländer, *B. psittacosis*, *B. proteus*, the organisms found associated with gas gangrene, meningococcus, and gonococcus. Brief bacteriological details, morbid histology, symptoms, signs, and treatment are all clearly and concisely set forth. The section on pneumonia and the pneumococcus must, however, be singled out for special notice. This portion of the book shows all those qualities of clear thinking and crisp, concise writing which are so characteristic a sign of the best French medical work, and Dr. P. Menetrier and Dr. H. Stevenin are to be congratulated on this part of the work. The chapter on the enterococcus should also prove valuable to English readers, as it is a subject on which our English text-books are distressingly vague and brief. The illustrations throughout the book are good, and some of the coloured plates reach a very high standard. References are given in footnotes. They are too few in number for a standard work of this kind, but as far as they go they are up to date and representative.

THE CARE OF HUMAN MACHINERY.

By R. M. WILSON, M.B., Ch.B. Oxford Medical Publications. London: Henry Frowde and Hodder and Stoughton. 1921. Pp. 238. 10*s.* 6*d.*

THIS book is composed largely of material which originally appeared in the Trade Supplement of the *Times*, where the articles condensed in clear language much that appeared during the past few years in Government publications. The author draws most of his facts from reports of the Health of Munition Workers Committee, the Industrial Fatigue Research Board, the Medical Research Council, the National Service Medical Boards, and the Factory Department, though he relies upon a few other sources. Readers unacquainted with these reports will be astonished to discover the lead which this country has taken up to the present in acquiring new knowledge, but, if they desire to read further on any subject, they will regret that the book contains no bibliography to guide them to the original sources of the knowledge—an unfortunate oversight.

An irrefutable case for factory medical officers is made out in the interests of health and efficiency and of a contented personnel and improved output. A works doctor, it is held, is a form of insurance that must soon become universal. Fatigue is discussed as the great enemy of output, health, pleasure, and joy in life—an enemy that must be kept at bay by one who understands it. Its every move must be watched and studied; but Dr. Wilson points out that so far the optimum working time for industry in general has not been determined with a sufficient degree of accuracy, still less is this the case for particular processes and individuals. Evidence is drawn from army recruiting data to prove that work is to-day making many a fit man unfit because the worker and his work are not suited. The plea may be entered that each industry should organise the health and efficiency of its workers, just as Sir Allan Smith has recently suggested that it should be responsible for its own unemployment. Its interest lies that way, for the unfit worker becomes easily fatigued and irritable; he cannot give of his best. Industry must recognise that the skilled worker is always of more value than a machine, and is worth taking care of.

Lost time is discussed by Dr. Wilson as one of the diseases of industrial life, and its extent is laid bare. Labour turnover, or "lost workers," is presented as the mortality of industry—a mortality as extensive as its cost is appalling. The need for determining both, so as to enable remedies to be applied, is adequately dealt with. The chapter on Ventilation and Output is one of the best in the book; it is up-to-date and points out how human activity is affected by "weather," which, within the workshop, can be controlled by ventilation. This matter, when our margin of safety in a health sense is low, can hardly be over-estimated. Variety, however, is needed, since rhythmical changes of air are more pleasant and stimulating than a steady, even flow. The claim is made that industrial management is intimately concerned with extra-factorial life, because "an employee who comes from a clean and wholesome house, where his meals can be properly prepared, and where his leisure can be spent advantageously, is manifestly a much better investment than one whose home is situated in a slum, whose food is ill-cooked and worse served, and whose leisure belongs for the most part to the local public-house."

Other matters, such as factory lighting, safety first, first aid, noise, and industrial welfare, are also discussed; but as the book is a summary and review of work done, it hardly lends itself to further condensation. We recommend it to our readers as a first primer of interest in itself and one which may induce them to look further into subjects of the greatest economic importance to all.

PRACTICAL MEDICINE SERIES.

Vol. III.: Eye, Ear, Nose and Throat Series. Chicago: The Year-Book Publishers. 1920. Pp. 382. $1.75.

THIS is one of a series of eight volumes of abstracts of medical and surgical literature. The third volume deals with the eye, under the editorship of Dr. Casey Wood, while the sections on the ear and nose and throat are edited respectively by Drs. A. H. Andrews and G. E. Shambaugh. The abstracts are mostly of articles published in American journals, but include a number of English and a few continental publications. The number of papers abstracted is very large; indeed, a smaller number and a more ruthless selection would perhaps have been of advantage. Short editorial comments have been added here and there, sometimes of

rather a pedagogic nature; the labour of compilation must have been great, but it has been well repaid by the production of a volume of great interest and value, and we look forward to the regular appearance of this publication in future years.

THE CEREBRO-SPINAL FLUID.

Its Physiology and Pathology. By WILLIAM BOYD, Professor of Pathology, University of Manitoba; Pathologist, Winnipeg General Hospital. London and New York: Macmillan and Co. 1920. Pp. 176. 30s.

Professor Boyd prefaces a work which divides itself naturally into two parts, a purely scientific section and one which we may regard as clinical or empirical, with these happily chosen words:—

"Any means which will facilitate the difficult diagnosis of diseases of the central nervous system is of value, and the cerebro-spinal fluid, which bathes its deepest recesses and washes the very nerve cells and fibres themselves, is in truth a mirror which reflects every change taking place in that system."

It is impossible to view the controversial subject of intrathecal therapy without taking into account the fact that there is a circulation of the cerebro-spinal fluid taking place in definite directions. As a result of injecting solutions containing easily visible particles it has been shown that circulation takes place upwards from the spinal sac to the lower cranial chamber, while the flow from the upper cranial chamber takes place in a downward direction. Further, there can be no doubt, as the author points out, that the fluid is a definite secretion of the choroid plexus or of the choroid gland, as Mott calls it. Not only is cerebro-spinal fluid a true secretion, but it is also absorbed along definite channels, among which the arachnoid villi must be mentioned. As with other secretions, the flow of cerebro-spinal fluid can be increased considerably by the injection of certain substances, chief among which are extracts of the choroid plexus and brain tissue. It is suggested that the function of the fluid is not purely mechanical, for its composition points to a nutritive rôle.

The clinical section of the book opens with a short discussion of lumbar puncture and its occasional harmful sequelæ. The fact that general paralytics never suffer from any symptoms either during or after lumbar puncture Professor Boyd explains by the marked excess of fluid present. It would, however, be more correct to attribute it to the general wasting of the brain, and possibly also to the dense dural adhesions which, as it were, suspend the brain from the cranial vault. He lays stress on the importance of the accurate determination of the fluid pressure, and recommends the apparatus used by Cassidy and Page for clinical purposes. In the description of routine laboratory tests no mention is made of the quantitative estimation of total protein, the dilution method for the rough estimation of protein excess, the cholin test, the Boveri test, or the Berlin blue reaction. With regard to the Wassermann reaction, sufficient stress is not laid upon the varieties of technique employed, nor on the fallacies arising if fluid is kept at room temperature or becomes contaminated. It is, moreover, regrettable that the many chemical tests are not critically discussed, and also that the practical difficulties encountered are not dealt with.

In the section of the book devoted to a discussion of the pathological fluid findings in diseases involving the central nervous system, Professor Boyd mentions that there may be a pleocytosis in cases of cerebral tumour, especially when the meninges are involved. The use of the sugar content is stated to be the chief differentiating point between acute anterior poliomyelitis and tuberculous meningitis; in the latter disease it is usually normal, while Professor Boyd states that in anterior poliomyelitis it is not reduced. Many will disagree with the statement that only 30 per cent. of cases of cerebro-spinal syphilis give a positive Wassermann reaction in the fluid, and that 70 per cent. of tabetics give a positive reaction in the blood. Professor Boyd is an enthusiast on intrathecal therapy. In the therapeutic section he states that infantile convulsions may often be more quickly relieved by lumbar puncture than by any other treatment. He quotes cases of cures of tuberculous meningitis by intrathecal tuberculin injections and of pneumococcal meningitis by ethylhydrocuprein. He gives in detail the modern treatment of neurosyphilis.

This book, taken as a whole, is a pleasantly written summary of the more important aspects of our knowledge of the cerebro-spinal fluid, which will appeal less to the laboratory worker than to the general physician.

ON BONE FORMATION.

Its Relation to Tension and Pressure. By Dr. MURK JANSEN, O.B.E., Lecturer on Orthopædic Surgery in the University of Leiden (Holland). Manchester: University Press. 1921. Pp. 114. 20s.

FOR more than half a century the views of Meyer and Culmann as to the effect of pressure and tension on formation of bone have been passively taken, and, within the last 30 years, what is known as Wolff's law, which expresses the same belief in precise terms and within implied limits, has been accepted also without serious question by anatomists, who have in general let it go, so to speak, by default. Yet objections have been raised from time to time to the acceptance of this "law," and these have come largely from orthopædic clinicians who could not reconcile it with their findings in practice. This book is the most recent declaration of the unsatisfied, for Dr. Murk Jansen holds strongly that functional pressure is an important factor in bone formation, while tension has no power in this direction, and he considers it necessary to postulate other factors which—for want of a better word—may be termed "purposive." In developing his main thesis the author has, in our opinion, certainly demonstrated that tension can have little or nothing to do with bone formation. He illustrates his point with beautiful photographs of very happy sections, not confining his attention (as did Wolff) to the neck of the femur, although his demonstrations of the conditions in coxa vara are among the most striking of his evidences. We cannot say that we think all his examples or all the explanations advanced are of the same value—Albert's "radiants" from the intercondylar fossa are extremely suggestive of crucial tension and call for more convincing treatment than Dr. Jansen's if the effect of tension is to be eliminated. Again, the reader of his exposition of pressures in joints may have an occasional feeling that the author's enthusiasm leads him to make less of the points on the other side than they really deserve. But, notwithstanding these weak spots, we cannot help feeling that Dr. Jansen has presented an excellent and almost convincing argument for his side of the question, and those who are not to be convinced will at any rate derive much interest and information from his clearly written pages. The printing is large and clear, and the get-up of the book as a whole reflects credit on its producers, as well as on its author, who is to be congratulated on a courageous attempt to reform loosely-held beliefs.

ORGANIC MEDICINAL CHEMICALS, SYNTHETIC AND NATURAL.

By M. BARROWCLIFF, M.B.E., F.I.C., and FRANCIS H. CARR, C.B.E., F.I.C. London: Baillière, Tindall, and Cox. 1921. Pp. xii. + 331. 15s.

THIS is one of a series of handbooks, edited by Dr. S. Rideal, each of which is intended to give a comprehensive survey of some branch of industrial chemistry. The preparation of the volume before us has been entrusted to two chemists who are able to speak authoritatively on both the industrial and laboratory aspects of their subject, although the former naturally takes the more prominent place. Practical details are given for the preparation of all the more important medicinal organic chemicals, some account of the underlying theory being added where necessary. Numerous illustrations of chemical plant are included and the citation of literature is very complete. The British fine chemical industry earned the thanks of the nation for the manner in which it succeeded in supplying all essential synthetic chemicals during the war. The quality of these products is excellent, but the manufactures in many cases have not yet been established on a commercial basis as regards maximum

yields and minimum costs of production generally. These are matters of great national importance and, as the authors point out, perfection can only be attained by zealous work on the part of those with knowledge. University-trained men are handicapped in chemical works, as a rule, by their lack of information on current industrial conditions; this book should be cordially welcomed as helping to bridge the gap between college and factory.

EINFACHES PHARMAKOLOGISCHES PRAKTIKUM FÜR MEDIZINER.

Von R. MAGNUS, Professor der Pharmakologie in Utrecht. Berlin: Verlag von Julius Springer. 1921. Mit 14 Abbildungen. Pp. 51. M.17.

THIS little book should be found useful by those who have to arrange courses of laboratory instruction in pharmacology. Directions are given for 20 sessions; 14 of these are devoted to practical exercises to be carried out by the students themselves, consisting chiefly of work on the frog and experiments illustrating some of the chemical aspects of the subject. The remaining six sessions take the form of demonstrations selected to illustrate experimental methods as applied to warm-blooded animals. The use of complicated appliances is avoided as far as possible, and the work is planned so as to make the best use of the time available. Details of all the apparatus and reagents needed are given, and the interleaving with blank pages adds to the use of the work.

PATHOLOGY.

A Text-book of Pathology. Second edition. By W. G. MCCALLUM, Professor of Pathology and Bacteriology, Johns Hopkins University, Baltimore. London and Philadelphia: W. B. Saunders Company. 1920. Pp. 1155. 45*s*.

Aids to Pathology. Fourth edition. By HARRY CAMPBELL, M.D., B.S., F.R.C.P. London: Baillière, Tindall, and Cox. 1920. Pp. 248. 4*s*. 6*d*.

CONSIDERED only as a student's manual, Professor McCallum's text-book has obvious disadvantages. It makes no claim to being a complete work of reference; many important conditions are omitted altogether, and there is a certain lack of balance in the space allotted to several of the commoner pathological processes. Moreover, the arrangement of the subjects is unconventional, and the student who wishes to read up the pathology of any individual organ may find the information he desires scattered through the book in half a dozen different chapters. Nevertheless, the success of the work was immediate. It has been reprinted several times, and now, four years after publication, we have the second edition. The explanation, of course, is not far to seek. Professor McCallum holds definite views which he elaborates in a logical and convincing manner. The result is a work which bears on every page the stamp of the author's individuality. We feel that he is teaching from his personal experience, and the suggestion of a compilation which is so often discernible in text-books of this size is altogether lacking. In this edition certain sections have been revised or rewritten in the light of the progress of the last few years, and several new illustrations have been added, but the plan of the work remains the same.

Dr. Harry Campbell's little book would seem to have an established vogue in student circles, and we can imagine that it is a useful aid to a qualifying examination. Indeed, the very fact that it is written by a clinician enhances its value as a guide in preparation for those ordeals which are conducted without the assistance of a professional pathologist. This edition has been slightly increased in size and has been brought up to date, though here and there an old-world flavour is still discernible. It is stated, for example, that the "hobnails" of the cirrhotic liver are portions of liver substance which have been thrust out by the contraction of fibrous tissue. And the information, on page 87, that at the growing border of a sarcoma there is a great excess of small round cells which advance in all directions, absorbing the normal tissues (histolysis) in the immediate vicinity, leaves us plunged in thought.

JOURNALS.

British Journal of Ophthalmology. October to December, 1920.—The October number is occupied by the papers read at the Oxford Ophthalmological Congress last summer on Perimetric Methods and the discussion that followed. The subject has received a great impetus since the importance of small scotomata adjacent to the blind spot in the diagnosis of incipient glaucoma has been realised, and the relative advantages of various different instruments were set forth. The same subject overflows into the November number but cannot be regarded yet as closed. At least two new instruments for the purpose have been submitted to the members of the Section of Ophthalmology of the Royal Society of Medicine during the last few months.—The subject of Colour Vision is dealt with in the November issue by Dr. F. W. Edridge-Green, who returns to the charges in his controversy with Mr. J. H. Parsons, and in the next issue Sir George Berry criticises the Young-Helmholtz theory from an independent standpoint.—These numbers also contain articles by Dr. A. W. Stirling, who maintains that the axis of astigmatism tends to shift with advancing age; by Dr. J. A. Wilson on the subject of Cinematograph Eye Irritation; by Mr. M. S. Mayou and Mr. H. Neame on the injuries to the eyes of fishes by the tar-pollution of rivers; and by Mr. H. Herbert, who describes his latest operation for glaucoma, which he terms the "small flap sclerotomy."

Journal of Laryngology and Otology. February, 1921. Vol. XXXVI., No. 2.—This number contains the second and final part of a review, by Mr. Irwin Moore, of all the recorded cases, 73 in number, of angeioma of the larynx. Spontaneous hæmorrhage occurred in 12 cases, but was never fatal; of 32 cases on which intralaryngeal operations were performed bleeding was considerable or severe in 25, but was unimportant in the 7 cases treated by thyro-fissure. An article by S. H. Mygind, of Copenhagen, deals with the occurrence of head-nystagmus in human beings; this symptom, a common result of vestibular irritation in birds and some mammals, is of the greatest rarity in man, but Mygind obtained the phenomenon in 78 per cent. of infants between the ages of one and eight months, and considers that it disappears at a later age as a result of a reflex tendency to fixation of the head originating in the cerebellum. The new editors of this Journal are Dr. Logan Turner and Dr. J. S. Fraser, of Edinburgh, and it is now published by Messrs. Oliver and Boyd, Edinburgh.

Journal of the Royal Army Medical Corps.—In the issue for January there is an article on Anoxæmia in Acute Gas Poisoning by J. Barcroft, C.B.E., F.R.S., in which it is pointed out that the pathological condition is a more or less complete oxygen-starvation of the tissues and organs, and that this may develop in three forms—the anoxic type, where, though there is plenty of hæmoglobin, the oxygen pressure is low; the anæmic type, where there is too little effective hæmoglobin, perhaps because too much has been changed into methæmoglobin or carboxyhæmoglobin; and the stagnant type, in which the blood, indeed, may be normal, but too little is delivered to the tissues. His experiments were made on goats, which endure having blood taken by aspiration from either ventricle as required for chemical examination. The arterial blood of a goat is generally oxygenated up to 90 or 100 per cent. of saturation, while the venous blood contains only half as much. The goats were given phosgene to breathe, and became "gassed." Oxygen may be used to cure them; there is one sign, cyanosis, that calls for oxygen, and there is one clinical rule, oxygen being always valuable, and in war precious—Do not use oxygen in gas-poisoning unless the patient is cyanosed. When the oxygen pressure in the blood falls below 90 per cent., headache occurs, vision is impaired, sleep is difficult, work is impossible, and voluntary movement may kill the patient, especially sudden movement. Thus an officer, gassed, died at once when, being unexpectedly shelled, he jumped for the shelter of a dug-out. The condition to begin with is anoxic anoxæmia, but death follows by failure of the circulation, vagus stimulation, lack of vaso-motor tone, perhaps brain failure. A goat which fought hard against anoxæmia breathed more rapidly for hours, doubling thus its pulmonary ventilation, and its venous blood became more oxygenated and redder, the circulation also becoming more rapid. This all put so much strain on the goat that after 20 hours it became exhausted, its respiration and circulation failed, its blood became black, and a condition of stagnant anoxæmia was established. The cyanosis of the early stage is plum-coloured while the systems can react; when the circulation has failed the cyanosis is grey. In either of these conditions oxygen may yet restore function. The treatment for anoxæmia is, in the first place, rest and warmth; secondly, oxygen; and, thirdly, intravenous injection of saline solution, which replaces the liquid lost in developing œdema of the lungs and re-establishes blood pressure; bleeding may also be required to reduce pressure raised on the right side of the heart.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 26, 1921.

Practice Abroad.

THE issue by the General Medical Council of a new edition of their valuable report[1] on the conditions under which medical and dental practitioners registered here may practise abroad throws light on a subject of personal interest to all practitioners who are not satisfied with the circumstances of British practice. To the man or woman who has just completed his medical studies his diploma offers the opportunity of travel and adventure in a very high degree. It is only necessary to turn to the 1921 edition of the Medical Directory, with its 334 columns of practitioners resident abroad, to see how the lure of the distant and the unfamiliar has worked in our profession. Armed with a certificate of registration from the General Medical Council one may go all over the world without further formality. British Dominions and Crown Colonies, with slight exception, admit the registered diplomate to practise without further examination. This immense freedom is equally open to those who have obtained the high qualifications demanded by the registering bodies in Australia, Canada, Ceylon, Hong Kong, India, Malta, Newfoundland, New Zealand, and Straits Settlements, and whose names appear in the Colonial List at the end of the Medical Register. It is not generally known that to be inscribed on this list carries precisely the same rights and privileges as a place on the general register. Although it would require an Act of Parliament to do so, we think it would be in the best interests of medicine throughout the Empire were this list merged in the main register. Beyond this, medical practice is fenced about with an ever-increasing wall of additional examinations and other formalities. The several States of North America have not yet been able to agree on the degree of reciprocity among themselves, much less with their English-speaking brethren; repetition of all or any of the series of qualifying examinations may be required of the candidate. There are now two foreign countries, Italy and Japan, which reciprocate with us in the sense that our duly qualified practitioners can practise there and theirs here, without let or hindrance. Reciprocity with Belgium, which was found to be a useful war measure, lapsed at the end of last year without, of course, penalising those who had already taken advantage of it.

Going further afield into actually foreign lands it may perhaps be inquired why the Englishman should desire to practise in any country other than his own and among the subjects of other nationality; should he desire so to do, it is perhaps reasonable for him to be forced to obtain the same familiarity with the habits, manners, customs, superstitions, and diseases of the country as a native would do during his ordinary course of medical study. The matter is quite otherwise if his intention is to practise solely among his fellow-countrymen. France and Switzerland are, however, unwilling to allow a foreigner to treat his own countrymen resident or visiting in their country unless he has obtained what amounts to a very difficult supplementary qualification. In Switzerland we gather that the penalty for a first infringement of this rule is a heavy fine, and on repetition of the offence a similar fine, with expulsion from the country. It would not merely be a friendly act, but could hardly fail to turn to the advantage of any country to allow other nationals resident within its borders to be cared for by medical men and women of their own nationality. Even pre-war Germany made no difficulty in this regard, and English and Americans visiting Nauheim or Langelschwalbach could freely consult English or American doctors. It might be seemly for an English colony in a foreign resort to advertise for and appoint its own medical adviser. A classified list of registered practitioners resident abroad, affords material from which the relative popularity of the various localities may be gauged. In general it may be fair to assume that the number of names recorded for any district or country is the quotient of the desirability of practice in that country divided by the difficulties imposed upon the would-be practitioner.

For instance, the General Medical Council reports no restrictions on practice in Abyssinia or in the Cayman Islands, while in Siam there are no laws whatever relating to the practice of medicine or dentistry; but there are apparently few practitioners in these parts. On the other hand, the attractions of practice in Switzerland and certain parts of France and Spain are undoubtedly very great, while the number of British diplomates practising there is strikingly small. In France, although the restrictions were temporarily waived for certain practitioners during the war—it is common knowledge that a large part of civilian practice behind the war zones in France was at one time in the hands of English or Americans—examinations must be passed in French and in the same subjects as are required of French students; in Switzerland even the matriculation examination itself must be taken, an exploit which involves intimate knowledge of all high-school subjects in one of the languages current in Central Europe. The number of names in a classified local list would become smaller still on minute analysis, for some are those of British diplomates who reside abroad without the right or intention to practise there, and others are of foreigners who have had the enterprise to round off their own qualifications with the diploma of the Conjoint Examining Board. The actual position of British practice on the mainland of Europe in the year just preceding the war may be best assessed by a study of the classified list of members of the Continental Anglo-American Medical Society, which was founded in 1889 to serve as a bond of union between the British and American practitioners established on the Continent of Europe and in Northern Africa, and of which Dr. ROBERT TURNER of Paris latterly was honorary secretary. We hope to see a revival of this useful fraternity.

[1] Published and sold for the General Medical Council by Constable and Co., Ltd., 10, Orange-street, London, W.C. Price 2s. 6d., post free (U.K.) 2s. 9d.

The Ætiology of Encephalitis Lethargica.

THE interest, mingled with alarm, felt by the general public in the new and strange malady, first described by VON ECONOMO[1] and now universally called encephalitis lethargica, or popularly "sleepy sickness," is reflected in our daily press in the shape of frequent paragraphs and articles on the subject. Official notes and statistics, issued by the Ministry of Health, have served to allay the alarm of the timid and apprehensive and have indicated to the general public that investigations into the cause of the disease are proceeding here and abroad. Bacteriologists in this country, in America, and in France have now settled definitely that encephalitis lethargica is due to a filtrable virus and that the disease is communicable to the rabbit, the guinea-pig, and less easily to the monkey. In America the research has advanced rather more rapidly than here and in France. LOEWE and STRAUSS, in a number of communications in the *Journal of Infectious Diseases* and elsewhere, and recently THALHIMER in the February number of the *Archives of Neurology and Psychiatry*, have given an account of their work which is of the highest importance. Like MCINTOSH and TURNBULL in England, and LEVADITI and his collaborators in France, they have shown that intracerebral inoculations into susceptible animals of emulsions of the cerebral lesions of cases are followed by a fatal illness which resembles the human disease. They have found, also, that blood, cerebro-spinal fluid, Berkefeld filtrates of nasal washings and filtrates of emulsions of the naso-pharyngeal mucous membrane removed at necropsy, all contain the virus. Further, they have cultivated the virus in ascitic fluid containing fresh tissue and have been able to infect rabbits with remote subcultures. The organism is described as resembling closely the "globoid bodies" recovered by FLEXNER and NOGUCHI from cases of poliomyelitis; it is a spherical body of uniform size, certainly less than 1 μ in diameter, since it passes through a filter which retains organisms of this size; it occurs singly or in pairs, sometimes in chains and groups, and is stained violet-blue by long treatment with methylene-blue and purple with Giemsa's stain. The organism is seen quite distinctly under an oil-immersion lens, and can be distinguished by its sharper outlines from the amorphous material derived from the culture-medium. Control cultures made from a wide range of material have failed to show the same organism. It appears, therefore, that the microbe of the disease has been not merely recognised, but has been cultivated.

A full account of the prolonged investigations of C. LEVADITI and P. HARVIER appears in the December issue of the *Annales de l'Institut Pasteur*. In this paper the authors deal in detail with the whole subject: the pathological anatomy of the disease as it occurs in man, and as it may be caused to occur in rabbits; the experimental study of the disease; and the bearing of the results on epidemiology and possible prophylaxis are all discussed. LEVADITI shows that the rabbit is much more susceptible to the disease than other laboratory animals. He has been able to obtain a virus fixe with which monkeys and guinea-pigs may be infected. Some of his results are not in agreement with the observations of the American authors quoted. He has not been able, for example, to recover the virus from the blood or cerebro-spinal fluid or from the naso-pharyngeal secretions; further, he has been able to infect animals only by intracranial, intra-ocular, and intratesticular injections; subcutaneous, intravenous, and intraperitoneal injections always failed. Attempts to cultivate the virus were also unsuccessful, but too much emphasis should not be laid on differences like these in work so difficult. LEVADITI and HARVIER have found a variation in virulence between different strains of the virus, and have concluded from this fact, and upon general grounds, that abortive and very mild cases occur and that probably carriers are responsible for the spread of the disease. No definite evidence has yet been obtained, however, to show that healthy persons may carry the organism. The search would naturally begin with an examination of the naso-pharynx, and in this connexion some of LEVADITI'S experiments are of direct importance. He finds that the virus is unable to traverse the uninjured nasal mucous membrane of the rabbit; when, however, the mucous membrane is damaged, either by scarification or by other means, such as the application of croton oil, the applied virus is not kept back and the animal succumbs to encephalitis lethargica. The mode of spread of the disease and the mechanism of infection appear, therefore, to be the same as in epidemic poliomyelitis.

This brings us to a point of great importance which has been satisfactorily disposed of both by LEVADITI and HARVIER and by AMOSS in the current number of the *Journal of Experimental Medicine*—namely, the relationship between poliomyelitis and encephalitis lethargica. The similarities between these two diseases are obvious and have been pointed out by many writers, but there are authors who suggest also that they have a common ætiology. What this means precisely it is a little difficult to say; the phrase would require careful dissection in the light of modern work on infection. But if we take the usual meaning and assume that by "common ætiology" is meant the same causal organism, it would seem a great misfortune if such a view came to prevail without better evidence than exists at the present time. The most definite and certain facts already acquired are against such a view. The virus of poliomyelitis is very pathogenic to monkeys and practically not at all to rabbits and guinea-pigs; the reverse is the case for encephalitis lethargica. The lesions of the former disease are found in the spinal cord; of the latter, in the brain. Immunity experiments afford conclusive evidence against the view. The seasonal incidence of poliomyelitis is summer and autumn; of encephalitis lethargica, winter. These facts alone are sufficient to separate the two diseases. They both belong to the same group, however, to which may be added rabies. In all these diseases the virus is filtrable and has an elective affinity for the nervous system; their study forms one of the most fascinating branches of medical science.

[1] Von Economo: Encephalitis Lethargica, Wien. klin. Woch., 1917, No. 30, p. 581.

The Dentists Bill.

A BILL to amend the Dentists Act, 1878, and the provisions of the Medical Act, 1886, as they affected previous legislation, was presented by Dr. ADDISON just before Christmas, and may come up for discussion in the House of Commons shortly. The object of the Bill is to prohibit the practice of dentistry by unregistered persons, and with this end in view it is proposed to constitute a Dental Board under whose administration a complete Register of the dental profession will be kept, great additions to the existing Register being made. The duty of the Board and the Registrar will be to maintain the Dentists Register, on which will be found the names of those registered under the Act of 1878, and a large body of persons who may establish a right to be admitted to the new roll. This right is defined in Clause 3 of the Act, which explains that the following persons will be included. First, all those who for five years immediately preceding the commencement of the Act have been engaged in dentistry in this country as their principal means of livelihood, or have been admitted to membership of the Incorporated Dental Society not less than one year before the commencement of the Act. Certificates of good character and of attainment to the age of 23 years will be required. Secondly, dental mechanics having similar qualifications can be admitted to the roll with the additional proviso that within two years from the commencement of the Act they must pass a prescribed examination in dental mechanics, and within ten years undergo prescribed training and examination. Thirdly, persons who within two years from the commencement of the Act pass the prescribed examination in dentistry, having been previously engaged in its practice as a principal means of livelihood. Fourthly, duly registered pharmaceutical chemists, or chemists and druggists, who can show that immediately before the commencement of the Act they had been in substantial practice as dentists and dental operators. These may be enrolled as dentists, but if they desire to practise they must give an undertaking to cease practice as chemists and druggists. Lastly, the Board can dispense with all these requirements in the case of persons whose services with His Majesty's forces have made compliance with them impossible, while it goes without saying that nothing in the Bill proposes to prevent the practice of dentistry by duly qualified medical practitioners. Dental companies are legitimised in the practice of dentistry if all the directors, managers, and operating staff are registered. It will be seen that the Bill presents many features which the qualified dentist on the present Register is sure to resent, so that it will be necessary for the Ministry of Health to defend the proposals by showing clearly where the public interest lies.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Jesse Howarth, of Manchester, the testator bequeaths to the Victoria University of Manchester £30,000 for the extension of the Jesse Howarth building of the Manchester Museum, and £15,000 to Henshaw's Blind Asylum, Old Trafford. The testator during his lifetime transferred to the Public Trustee £25,000 for the Manchester and Salford Hospital Sunday Fund. After the above and other deductions the residue of the estate, which amounted to £288,237 net, is given in trust for such charitable institutions or objects as the trustees shall direct.

Annotations.

"Ne quid nimis."

THE COLLECTIVE VOICE OF MEDICINE.

ADDRESSING sundry deputations last November Dr. Addison complained of the number of bodies that approached him claiming to be representative of the medical profession, and asked to be referred to some one body competent to speak on matters of policy affecting the profession as a whole. The supplement to the last issue of the *British Medical Journal* contains a memorandum in which it is stated that the Association has invited certain medical bodies to coöperate with it in constituting a body to satisfy the requirements of the Minister of Health. This body is to represent and be responsible to its constituents alone; it is to be concerned primarily with medical politics rather than scientific matters; it is to represent the views of the medical profession alone and their interests rather than that of the community. Some of the organised bodies mentioned in the memorandum are the Society of Medical Officers of Health, the Medical Women's Federation, the Poor-law Medical Officers' Association, the Medico-Psychological Association, and the Association of Certifying Factory Surgeons. After the adhesion of these the Royal Colleges are to be formally approached.

Apropos of this memorandum the Federation of Medical and Allied Societies has itself issued a memorandum on the collective representation of medical opinion which takes up the position that no one existing body ever can represent the medical profession, while in a federation of bodies each may retain its individuality and find adequate representation of its views. Formerly there were numerous bodies interested in the political aspects of medical and allied practice. Now, owing to the efforts of the Federation, this number has been greatly reduced, and while the Federation does not claim to be the body to represent the medical profession, it does claim to be a necessary and valuable contribution to the constitution of such a body. Confusion cannot occur between public and domestic interests, as the Federation exists only to guide public opinion, and is remote from the internal affairs of its constituents. Many medical questions having collateral interests involving the dental, pharmaceutical, or nursing professions, representatives of these are included in the Federation to make their views readily available in forming a collective opinion on broad principles of health administration.

Collective medical opinion should be based on some adequate expression of the voice of medicine locally. It may be recalled that provision was made in the National Insurance Act of 1911 for the formation of local medical committees in counties, county boroughs, and other areas large enough to have a separate insurance committee. The Insurance Commissioners having satisfied themselves that such a medical committee was properly representative of the duly qualified medical practitioners in the area, it became the recognised body to be consulted by the Insurance Committee on all questions affecting the administration of medical benefit. There was a reluctance on the part of the medical profession in general to coöperate in setting up these representative committees, and as a consequence the amending Act of 1913 made allowance for committees representative of panel doctors alone, with the duty assigned to them of ascertaining the opinions and wishes of the practitioners who entered into agreement with the insurance committees for the treatment of insured persons. In any area where no local medical committee had been set up under the 1911 Act, such a panel committee might be recognised as the local medical committee for the area. Local medical committees which are thus statutory under the Insurance Acts could easily be made representative of all sections of the profession, and it is quite certain that in any new scheme of organisation the local medical committee will be a very important

body. Medical organisations of whatever kind could and should influence local medical opinion through these local committees. A natural step would then be for these local committees to elect a central executive to confer with the central government. The fault fairly found against the great central organisations as they exist is that they seldom get together for the discussion of medical politics from the point of view of the public and of the profession collectively.

TREATMENT OF HYPERTROPHIED TONSILS WITH X RAYS.

SOME workers in the laboratories of the Rockefeller Institute for Medical Research (J. B. Murphy, W. D. Witherbee, S. L. Craig, R. G. Hussey, and E. Sturm) have described[1] a new method of treatment of hypertrophied tonsils. Early in the study of the effects of the X rays it was noted that lymphoid tissue was easily affected. Long exposures in animals almost completely destroyed the lymphoid tissue along with the circulating lymphocytes. This led to the use of the rays in leukæmia and for reducing enlarged spleens in other diseases. In the Rockefeller laboratories it has been shown that the lymphoid tissue is much more susceptible than the other tissues, and that the major part of it can be destroyed without appreciable damage to the latter. This in its turn suggested the use of the rays for reducing enlarged tonsils without interfering with drainage of the crypts, thus clearing up those focal infections on the connexion of which with disease in other organs so much emphasis has recently been laid. The following was the technique. The spark-gap, measured between points, was 8 in. The distance from the target to the exposed skin was 10 in. The current was 5 milliampères. The time of exposure varied from 3 to 7 minutes, according to age. A filter of 3 mm. of aluminium was used. The approximate dose was from 1 to 1¾ skin units. The patient was placed on a table so that the rays entered under the angle of the jaw and penetrated to the tonsil. The area exposed on each side was about 3 square inches, the surrounding parts being protected by heavy sheet-lead. For young children a special board was used with retaining straps. Forty-six patients of ages ranging from 3½ to 45 years were treated, all showing more or less hypertrophy of the tonsils and disease of surrounding tissues. None was treated when there was evidence of acute infection. In some cases there were deep crypts, a ragged surface, and purulent, muco-purulent, or cheesy exudation. In all but four cases marked improvement in the tonsils followed. In the majority two weeks after the exposure distinct shrinkage was noted, and this continued for one to two months. During this period of atrophy the crypts opened and drained, and in all but a few the exudation disappeared and the surface of the tonsils became smooth, pale, and healthy. Excepting 4 cases, no exudation could be forced out at the end of the period of observation. Later examination showed the edges of the crypts to be inverted, and in a number of cases white bands like scar-tissue were seen on the surface. Other lymphoid deposits in the throat, commonly small nodules on the pillars of the fauces and masses posterior to the pillars, disappeared. Some of the patients suffered also from large masses of adenoids, for which a dose of the X rays, similar to that used for the tonsils, was given. The result was not so satisfactory, though in a number of cases decided shrinkage was noted. The inferior result was probably due to the fact that the dose received by the adenoids after passage through the bony structures of the head was small. Probably with a more suitable portal of entry better results would be obtained. An interesting bacteriological effect was that, while the common organisms of the throat were unaffected, of 36 cases showing the hæmolytic streptococcus and staphylococcus 20 became free from these organisms by the fourth week after treatment. This is attributed not to the direct action of the rays on the organisms, but to drainage of the tonsillar crypts brought about by the atrophy. In this series of cases only one patient received more than one exposure. In future cases further exposures could be given for relapse or other reason. The dose is smaller than that used in the treatment of ringworm of the scalp, the safety of which has recently been demonstrated in our columns. Further experience of the treatment is desirable to establish its position, but the results so far obtained by American workers are encouraging.

[1] Journal of the American Medical Association, Jan. 22nd.

THE PICPUS QUARTER IN PARIS.

THE Picpus quarter, in which the Paris Municipal Council propose to build three new streets of tenement houses, lies between the Cours de Vincennes and the Avenue Daumesnil, in the XII. arrondissement, a somewhat sordid business district on the right bank, bordered by the Bois de Vincennes. Travellers on their way south who pass through the western corner of this arrondissement to reach the Gare de Lyon only see the comparatively modern streets. But a short distance from the Avenue Daumesnil and the rue de Lyon, which boasts a mere 74-year existence, there are almost as many links with the past to be found as in the Marais quarter. A Paris correspondent writes us the following account of the district, where demolition in the cause of health will be welcomed by the sanitarian but deplored by the archæologist.

"The name Picpus dates from Rabelaisian days and has a medical interest that may have amused the curé of Meudon. About 1550 a sudden epidemic of swellings, resembling those caused by flea-bites, covered the arms of the women and children in Paris. A monk invented an antidote in the form of a 'perfumed liqueur,' which sounds more pleasant than most of the drugs of the period, and gained for himself the sobriquet of the Père Pique Pusse. From the individual the name spread to the convent of the Reformed Penitents of the Third Order of St. Francis, and when, at the beginning of the next century Jeanne de Saulx, the widow of René de Rochechouart, Comte de Mortemart, gave the land and buildings for the monks to establish themselves in this quarter, the name Piquepusse, Picpuce, Picpus, clung to the whole locality. The story is told by all the old chroniclers of the history of Paris, but the Marquis de Rochegude, in his interesting 'Promenades dans toutes les rues de Paris' cynically remarks, 'It is more probable that this curious name of Picpus, which appeared at the end of the fifteenth century, is a corruption of the name of a householder.' At No. 61, rue de Picpus, may still be found the remains of one of the three doors of the Convent of the Third Order of St. Francis, built in 1611 on the site of a hermitage belonging to the Capuchin monks under Charles XI. Louis XIII., when he laid the foundation-stone of the chapel, gave the convent the status of a royal house, and it became the headquarters of the Franciscan Order in France. Cardinal Duperron, who persuaded Henri IV. that Paris was worth a mass, was buried in the chapel after leaving his valuable library to the monks. The present No. 42 belonged to the great Convent des Dames de Ste. Clotilde, whose property extended as far as the rue de Reuilly. The house formerly belonged to the Franciscans, and was used by the various ambassadors of the Catholic powers as a halting place before their state entry into Paris, which usually took place on a Sunday. The quarter is full of the remains of the great religious houses. Tubeuf, Anne of Austria's Finance Minister, brought from Rheims the chanoinesses of Notre-Dame-de-la-Victoire-de-Lepante, and for 150 years they celebrated every 7th of October in the buildings now numbered 37–41 the victory gained in 1572 in the Gulf of Lepanto by Don Juan of Austria over the Turks. But the most poignant memory of by-gone days is attached to No. 35, rue de Picpus, the Oratoire which served as a chapel for the convent of the nuns of the Sacred Heart of Jesus and of Mary, called the nuns of the Perpetual Adoration, the establishment described by Victor Hugo in 'Les Miserables.' At the end of the convent garden may be found the small enclosure, now called the Picpus cemetery, where were buried, heaped in a common

ditch the prince and the pauper alike, the 1340 victims guillotined in 1793 on the Place du Trône-Renversé, now Place de la Nation. Among them were André Chenier, Prince Jules de Rohan, Madame de St. Amaranthe and her daughter, the Duchesse d'Ayen, the Prince de Salm Kyrburg, &c. The exact position of the ditch was indicated by a poor workgirl, Mademoiselle Paris, whose father and brother had been buried there. In 1804 the families of the victims were authorised to bury their dead in the adjoining ground and ten years later the names were engraved and the cemetery enlarged. It is owing to the fact that his wife was a daughter of the Duc d'Ayen that Lafayette was buried there.

There are more cheerful souvenirs to be found in both the rue de Picpus and the rue de Reuilly. In the former Henri VI. once possessed one of his innumerable 'rendezvous de chasse' and both Ninon de Lenclos and Mademoiselle Clairon had country villas in the rue de Picpus, where ten years ago one could still see an inscription of Louis XV. on the wall at the corner of the rue Lamblardie. The rue de Reuilly goes back to Merovingian days when a royal chateau was built at 'Romiliacum.' Dagobert lived there, and married and unmarried himself with an ease that caused one old chronicler to call the place 'une sorte de harem.' On the ruins of this chateau Colbert installed a glass factory; to-day the place is occupied by an infantry barracks. Dagobert's Prime Minister, St. Eloi, is remembered in the street by the church, built on the site of his palace, that is said to contain his bones. In the Cour St. Eloi near by was the country house of the Marquise de Brinvilliers, the famous poisoner of Louis XIV.'s day. A few years ago, at No. 11, there existed a curious wine-shop called the Brasserie de l'Hortensia that is supposed to date from 1620. In 1793 it belonged to Santerre, chief of the Garde National de Paris, and it was here that the only two prisoners found in the Bastille were conducted when the fortress fell, one of them an old madman, and the other, Tavernier, a criminal, equally mad. There are many charming old-world gardens concealed by the high walls of the Picpus quarter. One of the most spacious belongs to the order of Protestant deaconnesses who for many years have conducted an excellent nursing home at No. 95, rue de Reuilly. The work they have done among the poor in the district will make them welcome the new scheme for the erection of up-to-date workmen's tenements, even if the pickaxe of the 'démolisseur' destroys some of the historical relics of the Picpus quarter."

PSEUDO-SYRINGOMYELIA AND CHRONIC POLIOMYELITIS.

AN interesting case bearing on the pathological anatomy of syringomyelia has lately been published by Dr. F. Giannuli, of the Santa Maria Asylum at Rome.[1] The patient, aged 64, was admitted for a sensory aphasia with a history that since the age of 30 he had suffered from a form of progressive muscular atrophy of the Aran-Duchenne type. When Duchenne described this form of muscular atrophy he considered it a specific entity always caused by identical lesions, but he subsequently noticed that the syndrome might result from diverse causes and not only from chronic anterior poliomyelitis. Many muscular atrophies of this type have shown symptoms of syringomyelia, some are associated with cervical pachymeningitis, others with amyotrophic lateral sclerosis, while others again are the expression of a syphilitic spinal meningomyelitis or of other pathological conditions of nerves and cord. The symptoms present in Dr. Giannuli's case were those of a classical symmetrical muscular atrophy of radicular type in the four limbs, with marked reaction of degeneration. The atrophy in the upper extremities involved also the shoulder girdle, and there were also present bilateral "main de cadavre" and symmetrical atrophy of the lower extremities with equino-varus. Tendon reflexes in the arms and patellar reflex were abolished, while the Achilles jerk was only obtained with difficulty. While there was a general diminution of sensation, the dissociated sensory disturbances of true syringomyelia were not obvious. The autopsy disclosed a form of very chronic poliomyelitis, which had lasted 40 years, characterised by a mesodermic hypertrophic inflammatory process, with hæmorrhages, extravasations, thrombi, and ischæmic medullary foci in the grey matter and secondary atrophic degeneration of the cells and nerve fibres. The ependyma of the central canal did not take part in this inflammatory process. The presence of many medullary cavities and fissures in the nerve tissue at first sight would lead to the contention that the condition was a variety of syringomyelia, but the evident inflammatory character of the histological processes points rather to the conclusion that it was a variety of chronic poliomyelitis. The symptoms produced by these lesions were therefore those of a progressive muscular atrophy of the Aran-Duchenne type, associated with general sensory disturbance. Dr. Giannuli considers that the presence of cavities in the medulla does not of itself constitute syringomyelia, which has a specific pathological anatomy and syndrome of its own, and that cases such as he has described should be differentiated from true or gliomatous syringomyelia to form a class of pseudo-syringomyelias, the result of very chronic poliomyelitis or sclerosing myelitic processes.

[1] Il Policlinico, Medical Section, Dec. 1st, 1920.

MARRIAGE OF SYPHILITIC WOMEN.

WHEN should a woman who has been infected with syphilis be allowed to marry and to bear children? The commission recently appointed by the Société Française de Dermatologie et Syphiligraphie, in reporting on the subject of marriage and syphilis, made a series of recommendations to suit varying conditions of infection, but, generally speaking, they amount to a rule that two years elapse between disappearance of all symptoms and marriage. Dr. Lacapère pointed out at the special session, when this report was considered, that a distinction had not been made between the two sexes. He considered that the general rule was too severe in the case of men, and not severe enough in the case of women. He pointed out that the commission had lent support to the generally held doctrine that congenital syphilitic symptoms are only found when the mother has been contaminated, and he believed that many debilitated children who succumb to childish infections owe their lack of resistance to an infection with the *Spirochæta pallida*, which does not cause clinical manifestations. In France—and the same is true of most European countries to-day—the war has left a large excess of females in the marriageable population. Society can therefore afford to be more stringent in enforcing celibacy on women than on men. The distinction, though not generally emphasised, has been clearly enunciated by both English and French clinicians for many years. C. F. Marshall quotes no less an authority than Jonathan Hutchinson as having said as recently as in June, 1906, "with reference to marriage, if the treatment has been continued for two years from the date of the chancre a man may safely marry, but a much longer period is neeessary for a woman." Marshall himself considers that a woman should not marry within two years of the disappearance of all symptoms. H. Gougerot, the eminent French syphilologist, considers double this period to be a minimum. J. E. R. McDonagh is probably nearest the mark when he says "if a woman has had syphilis ..... however drastic the treatment has been there is always a risk that her children will be syphilitic." Syphilis in women is not often recognised in the primary stage, and once the infection has become generalised the danger of its transmissibility to the fœtus can probably never be averted. It has been shown, however, that syphilitic mothers may bear perfectly healthy children if they are properly treated with antisyphilitic remedies during the months of pregnancy, and the wisest advice a physician can give to such a woman who is bent on matrimony is that during her first and every subsequent pregnancy she must attend a venereal clinic for regular treatment and advice.

AFTER-CARE IN TUBERCULOSIS.

IN a memorandum recently issued by the Tuberculosis Group of the Society of Medical Officers of Health recommendations are made for the improvement of the tuberculosis campaign in general and after-care in particular. It is evident that this memorandum has been drawn up by persons closely in touch with the present organisation and keenly alive to its many flaws. Special attention is drawn to the need for adequate after-care, the neglect of which in the past has done so much to stultify the results of sanatorium treatment. Until after-care has been organised on thorough and comprehensive lines no satisfactory results from the tuberculosis campaign can be anticipated. The patient who returns from a sanatorium is seldom fit for whole-time work; he requires longer hours of rest and shorter hours of work than his fellows, and, as the memorandum puts it, "Suitable holidays for the tuberculous after periods of strain, such as apparently slight intercurrent illnesses, are essential to maintain them in health, and an annual holiday of three weeks is a necessity." Hitherto money has been found for sanatoriums and dispensaries, whereas little has been available for after-care and consolidation of the sanatorium "cure." Yet it is essential that the discharged patient should be subsidised for a considerable time, and re-establishment of the tuberculous as useful citizens can only be accomplished in their homes by a well-organised system of after-care. Accordingly, the memorandum recommends the establishment of an experimental local workshop in London where, under the necessary supervision, returned tuberculous persons would be employed on a part-time system, but on full wages, pending the time that they could again take their place as able-bodied workers. By this experiment much valuable information could be gained, and if the scheme proved workable vast sums, which might otherwise be expended on colonies and village settlements, could be saved. An attractive feature of this scheme is the recognition of the fact that the tuberculous, like other human beings, cling to their home surroundings and detest the uprooting which segregation in distant settlements implies. Another recommendation put forward in this memorandum concerns the administration of after-care funds. "This can only be done satisfactorily by a committee composed of persons directly interested in the welfare of the patients." The secretary to such a committee should usually be the clerk of the dispensary, who has access to most of the necessary knowledge, and Friendly Societies, trades-unions, relief organisations, local councils, boards of guardians, panel practitioners, chemists, and religious bodies of every denomination should be represented. Undoubtedly such an organisation operating in every district would soon amply justify its existence, and would do much to fill the gap at present painfully evident in the tuberculosis campaign. We commend this thoughtful memorandum to the attention of our rulers, especially in view of the Tuberculosis Bill which is likely shortly to be presented to the House of Commons for its consideration.

ACUTE ARTHRITIS IN INFANTS.

Dr. Elmer Johnson,[1] who has made a statistical study of 73 consecutive cases of acute arthritis at the Babies' Hospital, New York, remarks that invasion of the joints and periarticular tissues by pyogenic organisms is by no means rare in infants. The inflammation of the joint is usually secondary to inflammation of the epiphysis, but in many instances the inflammation spreads from the epiphysis to the periarticular tissue without affecting the joint proper. In most cases the source of infection cannot be determined. In the present series only 32 gave a history or showed evidence of a focal lesion. Pneumonia had occurred in 10 cases, umbilical infection in 4, furunculosis in 3, cerebro-spinal fever, cervical adenitis, vaginitis, ophthalmia and infected wounds in 2 each, and otitis media, scarlet fever, and breast abscess in the mother in 1 each. Forty-six of the patients were males and 27 females. The age distribution showed that the younger the child the greater was the susceptibility to purulent arthritis. Fifty-three per cent. of the series were under 6 months of age, and 74 per cent. were under 1 year. The 12 infants who were aged 1 month or under had probably been infected at birth. Though only 4 presented omphalitis on admission, Dr. Johnson suggests that bacteria may have entered the blood-stream through injuries to the mucous membrane of the mouth or by trauma from forceps. Forty-two per cent. of the children had only one joint affected, 25 per cent. had two joints affected, and 33 per cent. had more than two joints affected; 95½ per cent. of the affected joints were in the extremities. The micro-organisms causing the infection were isolated from the joints in 47 cases—namely, streptococcus in 18 cases, pneumococcus in 14, gonococcus in 7, staphylococcus in 3, *B. influenzæ* in 3, and *B. coli* and meningococcus in 1 case each. As usual, the streptococcus and gonococcus appeared to be more prone to affect multiple joints, while the pneumococcus was limited to one or two joints. Out of 19 cases in which the blood was examined the cultures proved sterile in 10, while of the 9 with a positive growth 4 showed streptococcus, 3 pneumococcus, 1 *B. influenzæ*, and 1 staphylococcus. Forty per cent. of the negative blood cultures were in children who showed no organisms in the joints, while in the positive cultures only 22 per cent. had no organisms in the lesions. In other words, there was more likely to be a positive blood culture when organisms were found in the joints. The prognosis of acute arthritis in infants is not very hopeful. Fifty-three per cent. of the present series died in hospital, 9 per cent. were discharged unimproved, and 38 per cent. were reported entirely well or greatly improved. The outlook becomes considerably better with increasing age, the high mortality among babies being mainly due to the difficulty of feeding them.

[1] American Journal of Diseases of Children, February, 1921.

THE SPAHLINGER SERUM.

LAST week we briefly indicated the stage to which useful knowledge of the Spahlinger serum for tuberculosis had reached, concluding that it was well to await further enlightenment before passing judgment on the alleged remedy. Dr. Addison, speaking at Exeter on Feb. 18th, took occasion to correct the current report that a special medical officer of the Ministry of Health had been sent to Geneva to investigate this cure. No supply of the serum is at present available for investigation in this country, and there is nothing except statement and counter-statement on which to work. The evidence obtained from such amounts of the serum as were obtained for hospital practice was of a conflicting character and obviously excludes any claim made on behalf of the serum to be a panacea for all forms of tubercle. It is not good for any remedy, particularly a complicated remedy for a subtle disease, to be worked out in the limelight.

FATAL HÆMORRHAGE AFTER TONSILLECTOMY.

IN THE LANCET last week in the Proceedings of the Section of Laryngology of the Royal Society of Medicine, there is a report by Dr. McLeod of two cases in which death resulted from hæmorrhage following the operation of removal of the tonsils. Both patients were children, and in both death occurred within 24 hours. In the first case the sequence of events was that which is probably the usual one in these unfortunate cases: the child was apparently quite well until 4.30 in the afternoon, when she began to vomit blood; the correct procedures were taken, including suture of the faucial pillars, and left the patient improving and without bleeding, but she collapsed and died suddenly at 3 A.M. In such a case it is probable that hæmorrhage was occurring throughout the day, but the blood was swallowed and did not attract the nurse's attention; and this emphasises the import-

ance of trying to avoid this "concealed hæmorrhage" by keeping the patient in the semi-prone position. Dr. McLeod is to be greatly commended for his courage in reporting these two cases, for fatalities due to this operation are nothing less than lamentable tragedies, and the more light thrown on their occurrence the better the prospect of their prevention. These occasional fatalities must not, however, be allowed to bias our judgment of the value of the operation, which remains an extremely safe one. In the discussion following Dr. McLeod's paper one speaker referred to five deaths in 14,700 cases, and this is probably in excess of the average, as far as deaths from hæmorrhage are concerned, for Mr. J. Milne Dickie[1] reported two deaths in 7133 operations at the Edinburgh Royal Infirmary, but neither from hæmorrhage.

AN AGREED REPORT ON VENEREAL DISEASE.

THE issue by the Birth-rate Commission of a special report[2] on venereal disease is an event of some importance. The Committee which took evidence and drew up this report included eminent medical men and women in general and special practice, with five representatives of organised religious bodies. Over this Committee the Bishop of Birmingham presided, and the Rev. James Marchant, LL.D., kept the protocol. All 19 members have put their names to a report of some 20 pages which covers both medical and moral aspects of the venereal question. Four notes of reservation, signed by individuals or groups of members, show an imperfect agreement on certain points, but what is far more striking is the unanimous statement of the case in general, which is proof positive of a far larger measure of agreement than would be gathered from a study of recent controversies. Nor has this general assent been reached by easy avoidance of controversial points, for the minutes of evidence which appear in full are absolutely frank. The National Council of Public Morals, under the auspices of which the report appears, may be congratulated on having carried through a difficult task wisely and well.

BIOLOGICAL CONTROL OF DRUGS.

THE Departmental Committee, appointed by the Minister of Health last April[3] to consider the effective control of therapeutic substances which cannot be tested by direct chemical means, has brought in its report. (In passing it may be remarked that a useful and business-like piece of work has cost the country only £182.) The witnesses examined included the President of the General Medical Council, the senior warden of the Apothecaries' Society, pharmacologists, bacteriologists, and chemists holding official position, and representatives of the firms manufacturing therapeutic products. The report is a unanimous one signed by its five members, Sir Mackenzie Chalmers (chairman), Dr. H. H. Dale, F.R.S., Mr. A. B. Maclachlan, Dr. G. F. McCleary, and Dr. C. J. Martin, F.R.S. The committee recommends that therapeutic substances which cannot be tested adequately by chemical means should be subject to supervision and control, the controlling authority to be the Lord President of the Council, the Minister of Health, the Secretary for Scotland, and the Chief Secretary for Ireland, assisted by an Advisory Committee nominated partly by these, partly by the Naval and Military Authorities, the General Medical Council and Medical Research Council, and the Pharmaceutical Society. They suggest a central laboratory under Government control, wherein standards would be prepared and maintained by which to test samples of products issued for sale, the Research Council to be responsible for this work, and the manufacturers themselves retaining responsibility for securing that their products conform with the standards laid down. Power is to be taken to inspect premises where the substances are made, whether in the United Kingdom or abroad, and to supervise the successive processes in manufacture. An appendix to the report outlines a Bill to give these recommendations legal force. A section of the daily press, which completely misinterpreted the purpose of the Committee on its appointment, has hastened to discredit the very reasonable recommendations of this report.

THE fifth report of the Joint War Finance Committee of the British Red Cross Society and the Order of St. John, just issued at the price of 1s., covers the period from Oct. 20th, 1918, to June 30th, 1920, together with a summary of the financial operations from Oct. 20th, 1914. Inasmuch as a general report on the entire war work of the Red Cross will be published in the spring, any detailed analysis is deferred until its appearance. Of the total receipts amounting to £21,885,000, the sum of £2,053,000 was paid out for the transport of wounded; £2,928,000 for hospitals, not including local expenditure on the auxiliary home hospitals; £5,017,000 for stores; £5,148,000 for prisoners of war; and £2,718,000 for post-war schemes for sick and disabled ex-Service men and kindred objects, leaving a surplus on June 30th last of £1,827,000. Claims upon this surplus on behalf of the wounded will continue for a long time, and the Joint Committee foreshadows the development of a scheme throughout the country for the benefit of disabled ex-Service men.

VENEREAL DISEASE IN THE FAR EAST.

THE Commission appointed by the National Council for Combating Venereal Diseases and sent out to the Far East under the ægis of the Colonial Office has just completed a strenuous campaign in Shanghai, where the Commission arrived early in December.

The campaign opened with a representative Conference convened by the Shanghai Municipal Council, when addresses given by Dr. Rupert Hallam and Mrs. C. Neville Rolfe received much attention. In the course of her speech Mrs. Rolfe gave a brief account of the visit of the Commission to Japan, where military examinations of all youths of 20 give some clue to the health conditions. In one province where the licensing of prostitutes was abolished 35 years ago the incidence of venereal disease was about 15 per 1000 in 1911, whereas in every other district the figures were 35 to 47 per 1000. During their brief stay in Shanghai the members of the Commission held educational conferences for heads and teaching staffs of schools, a series of medical conferences with local and visiting doctors, showed "Damaged Goods" on the film, and organised a general public meeting for foreigners resident in Shanghai. Full facilities were given for the visiting of all institutions under the control of the Municipal Council, and during the Commission's stay various hospitals, prisons, licensed quarters, and clubs were inspected. The Commissioners formulated their recommendations in a report presented to the Special Joint Session of the Municipal Watch and Health Advisory Committees. This report, which was published in the *Municipal Gazette*, urged that facilities for the free diagnosis and treatment of venereal disease should be provided by the Municipal Council; that their health and educational departments in coöperation with voluntary organisations should secure the education of the public with regard to venereal disease, and that all possible steps should be taken to suppress prostitution. It is hoped that as a result of the campaign much of the programme recommended by the Commissioners will be carried out, and that in any case the appointment of a V.D. officer and the provision of free treatment for seafarers will be considered in the immediate future.

Much interest was shown by the lay public in the aims of the Commission, and any measures instituted by the Municipal Council on the lines suggested will receive a considerable amount of local support.

MANCHESTER ROYAL INFIRMARY: X RAY AND ELECTRICAL DEPARTMENT.—A series of seven plaster models, made from X ray observations, and showing the normal stomach and the effect of posture upon its shape, have been prepared at this department and placed on exhibition in the Museum of the Royal College of Surgeons of England.

[1] Journal of Laryngology, April, 1914, p. 184.
[2] Report on the Prevention of Venereal Disease. London: Williams and Norgate. 1921. Price 2ls.
[3] See THE LANCET, 1920, i., 974, 1022.

MEDICAL EDUCATION IN CHINA.

A well-attended meeting was held on Feb. 21st at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W., Sir DONALD MACALISTER presiding, to promote the advance of medical education in China.

Sir DONALD MACALISTER, in introducing Dr. Harold Balme, of the Shantung Christian University, said that he welcomed the opportunity of congratulating those who had made such wonderful progress in such a short time in medical education in China. Its future depended on the degree of support that the Western world was ready to supply.

Dr. BALME then gave his address:—

He said that prior to the beginning of the nineteenth century the study of medicine in every part of the world was hampered by the lack of a sound scientific basis, with the result that knowledge of the processes of health and of disease in the human body was the combination of many elements in which philosophy, superstition, and fantastic theory all claimed a part. The great contribution which the nineteenth century had made to the study of medicine might be described as a struggle for two dominating ideals—the determination to secure exact scientific truth in the investigation and treatment of disease, and the conception of trusteeship in relation both to medical knowledge and to the care of the sick.

We were accustomed to say that the doctrine of mandates, as at present understood, was a direct product of those newer ideas of international responsibility which had found their expression in the League of Nations. But whilst this might be true as regards the application of such a doctrine to countries, it had a much earlier birth in respect to individuals. It sprang into being on the first occasion that a physician taught that all medical discovery, and all knowledge as to the causation and treatment of disease, were the common heritage of every practitioner of medicine, and not the private monopoly of the discoverer himself. And when one began to consider what had been the results of that teaching—particularly when one viewed it against the background of countries where no such doctrine was taught—its immense effect upon the advance of medicine at once became apparent.

Visitors to China during last century again and again expressed their astonishment at the absence of any system of medical education or of hospitals, and at the lack of examinations or other restrictive qualifications safeguarding the practice of medicine. It was probably well known to all that for several centuries Chinese medical text-books had been accurately describing the symptoms of many diseases commonly met with in the country, whilst the great Chinese Pharmacopœia, compiled nearly 700 years ago, contained a number of drugs now universally used, whose action was already thoroughly understood in China at that time. But the difficulties which prevented any attempt at human dissection, and the lack of intimate acquaintance with physical science, restricted the Chinese physician to philosophic speculation and empirical observation; whilst the fact that anyone was at liberty to style himself a doctor naturally prevented the building up of a professional spirit or the development of a sense of trusteeship.

Dr. Balme then gave a historical survey of the introduction of Western medicine into China by the mission schools. Though the first voluntary hospital was opened by Thomas Colledge, a surgeon of the East India Company, in 1827, it was not till 1881 that the first Chinese medical college was established. Thereafter other small medical schools came into existence, mainly as a development of those classes for student-assistants which had been started, at first slowly and later in such numbers, in connexion with various mission hospitals. At the Biennial Conference of the China Medical Missionary Association, held in 1913, a resolution was passed urging that no further medical colleges be established until those then in existence—eight for men students and three for women students—were made efficient. And there were many who realised that even that number was beyond the power of the missions to render effective.

Meantime there came into existence a body of Chinese medical men who had received their training on modern lines, mostly in Europe and America, and who subsequently formed themselves into a National Medical Association of China. The leader of this group—Dr. Wu Lien-teh, better known in this country as Dr. G. L. Tuck—urged the Government to establish modern standards of medical education, outlining a suggested syllabus for the purpose. At the same time various of the provincial governments began to show interest in this work, and other organisations interested in the progress of China began to take a share in the work of medical education. At last, during 1914 and 1915, the Rockefeller Foundation of New York sent out two influential commissions to China, and as a result of their recommendations entered into negotiations with the London Missionary Society by which they have taken over the complete financial responsibility of the Peking Union Medical College. They are rebuilding the medical school and hospital at an expense of not far short of 2 million pounds. A large staff of expert teachers has been appointed, mostly from the United States, but also including a few men from this country; and every effort is being made to ensure that each department will be adequately equipped.

Since in this school the English language is the medium of instruction, the Council on Medical Education of the China Medical Missionary Association requested the Rockefeller Foundation to assist in the support of at least one medical school teaching in Chinese, and expressing the opinion that the school most suitable for such development was the one situated at Tsinan, the capital of Shantung province. They further urged that all missions interested in the advance of medical education, through the medium of Chinese, in the great Mandarin-speaking area of East and Central China, should concentrate their forces in the development and support of such a school. This school had now absorbed the schools at Nanking and Hankow, and the three junior classes formerly under instruction at the Union Medical College, Peking, and the Rockefeller Foundation had made a grant of over £30,000, since extended, towards the cost of additional bnildings and equipment at Tsinan.

The Council of Medical Education of the China Medical Missionary Association had outlined a two-year course of pre-medical instruction, to be taken before the five-year medical course. This minimum of two years pre-medical work in the laboratory sciences was now being required at Peking, Tsinan, Changsha, and Shanghai. In this and in the extension of the curriculum of trained nurses in over 50 registered training schools to four years, China might claim to be ahead even of this country. Dr. Balme referred to the good work accomplished by the Chinese Anti-plague Bureau and to the sympathetic attitude of the Chinese Government towards the development of medical education, and concluded by explaining the financial and other difficulties confronting medical schools in China and appealing for the sympathy, encouragement, and support of the profession in this country.

Sir ALFRED PEARCE GOULD, after thanking Dr. Balme for his most interesting address, congratulated him on the excellent work he and his co-workers are doing, and proposed that the following resolution be put to the meeting:—

"Having heard with pleasure of the sympathetic interest of the Chinese Government in the development of modern medicine in China, and of the steps which have already been taken by British and American medical practitioners to coöperate with the Chinese in the establishment of medical schools in which the highest standards are set, this meeting of members of the British medical profession desires to place on record an expression of its sympathy with this effort, and its willingness to promote in every way possible the advance of medical education in China."

The resolution was seconded by Colonel W. MCADAM ECCLES and was passed unanimously.

In answer to a question by Colonel ECCLES as to how the profession in this country could give help, other than financial help, Dr. BALME said that the workers in China had great need of sympathy and of the knowledge that medical men in this country took some interest in their work. Besides financial aid, help in recruiting suitable men for posts as they became vacant was of great value. A high standard of professors was required. He asked Professor Earle, of Hong-Kong, to help him to answer this question.

Professor H. G. EARLE endorsed Dr. Balme's remarks on the stultifying effect of a sense of isolation on teachers of medicine in remote areas, and explained that the stimulus afforded by the generosity of the Rockefeller Foundation was not limited to the money received from them. For example, in Hong-Kong they had felt the stimulus though they had had no financial help, all the special buildings having been erected from money given by Chinese residents in the neighbourhood. Professor Earle considered that the most valuable help could be rendered by granting full post-graduate facilities to Chinese medical men. His advice to the Chinese student was to graduate in his own country and then to proceed to Europe or America and complete his medical education by this means.

Dr. LOUIS SAMBON reminded the meeting of the possible value of the ancient Chinese medical knowledge, and urged that it should be studied before it died out.

A vote of thanks to Sir Donald MacAlister, proposed by Dr. MARY SCHARLIEB and seconded by Sir JOHN JORDAN, closed the proceedings.

MEDICINE AND THE LAW.

The Assets of the Approved Societies.

Dr. Addison has made an important statement with regard to the result of the inquiry now proceeding into the assets of Approved Societies, with a view to their judicious expenditure on new forms of benefit to the contributors. From the valuations completed it can reasonably be anticipated that the total of the surplus of all the societies approved under the Health Insurance Acts will be found to exceed their liabilities by at least £8,000,000. It is proposed to treat this very satisfactory condition of things as largely due to the contributions of members insured prior to the end of 1918, and for the present, at any rate, to confine to them participation in such new benefits as their societies may decide upon. With this principle it is understood the societies generally have concurred, and they have also adopted the wise resolve not to distribute the funds at their disposal in the form of increased cash benefits. The proposals made include contribution to the funds of voluntary hospitals treating members, the provision of accommodation in suitable convalescent homes, the provision of dental and optical treatment, with the meeting of expenses arising out of these, such as the purchase of glasses. The obtaining for members of the service of nurses and of medical attendance for families and dependents was also mentioned by Dr. Addison, who rightly laid stress upon the merits of the first three suggestions enumerated above. He was able to state, moreover, that the recent raising of contributions, with an accompanying increase of benefits, had been generally accepted without opposition and acquiesced in. It is proposed that the additional benefits referred to shall begin in all societies next July, and the actuarial calculations now made should render further valuation for a similar purpose unnecessary for five years.

The Importance of X Ray Examination.

A general inspector of the Ministry of Health held recently a public inquiry into charges brought by the Norwich board of guardians against the medical officer of the Poor-law infirmary in respect of alleged lack of proper care in treating an inmate. The man had slipped and injured his leg, which became swollen and painful. An important point to be determined at the inquiry was whether there had been failure to recognise the leg as fractured by the fall and to treat it properly. There was also for consideration the question whether the patient was rightly removed to a lunatic ward, and whether the removal took place in a proper manner, having in view the fact that his leg might have been recently fractured, while the removal was effected in an ordinary carrying chair. Some conflicting medical evidence was given on these subjects. The death of the patient has taken place, and an inquest must be taken as having disposed of such issues as are indicated above. As the result of post-mortem examination medical evidence was given that there had been a fracture of the neck of the femur, but that appearances proved conclusively that this must have taken place some years before death, the recent fall having had no apparent result beyond a bruise or sprain of the hip. The medical witness stated further that deceased, in his opinion, had been properly treated. The coroner held that, so far as his duties were concerned, this made the case clear. He refused to adjourn the inquest, and found a verdict of "Death from natural causes." Apparently much trouble and anxiety to the medical man, whose professional competence was impugned, would have been spared, as well as expense to the guardians, if a recommendation of the former that an X ray apparatus should be provided for the infirmary had been accepted by the guardians.

Copeland v. *Orr.*

Dr. T. Orr is to be congratulated on the result of his appeal in the action for slander brought against him by Mrs. Copeland, formerly sanitary inspector and health visitor under the Ealing Town Council. The alleged defamation arose out of an unfavourable report on the plaintiff's performance of her duties made by Dr. Orr as medical officer of health at a meeting of a committee of the council. Privilege was pleaded, but Mr. Justice Roche at the trial held that there was sufficient evidence of malice to justify the case being left to the jury, who found for the plaintiff with £25 damages, for which judgment was given. The Court of Appeal has now set aside Mr. Justice Roche's judgment and entered judgment for the defendant, holding in effect that evidence that the defendant had frequently found fault personally with the plaintiff with regard to her work did not constitute evidence of malice on his part. Lord Justice Bankes pointed out that if the verdict were allowed to stand a subordinate who was censured in respect of defective work, and then reported upon to superior authority in a communication which otherwise would be held privileged, would be able to rely upon the previous fault-finding as evidence of malice.

A Massage Establishment Closed.

Mr. Chester Jones recently dismissed the appeal of Mary Frances Nolan against the refusal of the London County Council to grant her a licence to carry on a massage establishment at an address in Jermyn-street. None will question the magistrate's decision who regards massage as a form of treatment to be prescribed by a medical practitioner in suitable cases, and to be carried out according to his directions by persons who have qualified for the purpose by an adequate course of training. Establishments conducted by young women masquerading as nurses under fancy names are no doubt often sources of temptation to the immoral and of danger to persons who may enter them with no intention to indulge in immorality. The question is how to obtain evidence in cases where undesirable practices are believed to go on under the pretext of massage. In the appeal before Mr. Chester Jones at Bow-street two young men were called who were sent expressly as detectives to collect evidence, and who had gone through the process of so-called massage in a manner which they described in court. The learned magistrate expressed himself as strongly disapproving of evidence so obtained. He said in court that men who were willing, for payment, to go round to massage establishments to see whether their sexual feelings were aroused were not "very nice men," and that their evidence ought to be looked at carefully. "He did not quite understand the mentality of those who employed men on such a task." That the evidence of such witnesses, and, indeed, of all witnesses, should be scrutinised carefully none will deny. What evidence, however, would Mr. Chester Jones wish to see substituted for it? It is to be regretted that sometimes in civil life as in military matters the employment of detectives or "spies" is necessary. Persons frequenting massage establishments for immoral purposes are not likely to come forward and denounce them, and might not be believed if they did. Respectable persons lured into them are not much more likely to tender their evidence. To take an adjoining room and bore a hole through a partition or wall is generally quite impracticable. Hearsay stories might easily be obtained, but would not be received as evidence. A suggestion by the magistrate as to what he would regard as satisfactory proof of the undesirable quality of a particular establishment would have no doubt been welcomed by the London County Council.

Distributors of Cocaine.

A man calling himself Frank Simmonds, or Russell, 32 years of age, has been sent to prison for six months by Mr. d'Eyncourt, at Marylebone police-court, for having cocaine in his possession without authority. It was stated by a detective that in last September a large quantity of cocaine had been found in a flat rented by the prisoner, one bottle containing 244 gr. He had been arrested on Jan. 9th with a woman who next day had

been sentenced to three months' imprisonment, but he had had to be kept in the infirmary for some time before being brought before the magistrate. The police had had great difficulty in arresting him, as he had been living at as many as 50 different addresses. The traffic done by the prisoner was in the West End. The extensive demand for cocaine in the West End of London, and the high prices obtainable for it, are to be noted in the reports of many trials. Mr. d'Eyncourt had four men before him at Marylebone in last October, charged with the same offence as Simmonds, when he sentenced two to two months' imprisonment in the second division, and bound two of them over. It is to be hoped that the longer sentence inflicted in the present case may tend to deter others, but it is evident that the high profit to be realised upon wares so easily carried and concealed render the suppression of the trade difficult. That Simmonds had money at his command can be inferred from the way in which he was able to baffle the police by changing his abode.

Since the sentence on Simmonds Carlo Ivaldi, a young Italian, has been sentenced to six months' imprisonment and deportation: he had in his possession more than 7000 grains of cocaine.

Alleged Bogus Doctor.

In THE LANCET of Feb. 5th attention was drawn to a woman calling herself Margaret Crawford (or Margaret de Lancy Williams), whose arrest was sought on a warrant by the police for alleged offences against the Medical Act, 1858. This woman was arrested in Dublin on Feb. 10th, and brought before Mr. D'Eyncourt at Marylebone police-court on Feb. 18th to answer four summonses preferred by the Medical Defence Union, Ltd., of falsely pretending to be a general medical practitioner in August and September last, and of falsely using the title of Bachelor of Medicine on three death certificates. The accused pleaded guilty and was fined £20, with 5 guineas costs, for each of the offences.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Increased Fees at Scottish Universities.

THE four Scottish Universities have had under consideration the necessity for increasing their fees in order to meet the greatly enhanced cost of services and upkeep. Draft ordinances are at present passing through their various stages in each university to enable this to be done. On Feb. 14th the General Council of Edinburgh University approved of an increase in the matriculation fee from one guinea to two guineas, and of the examination fees of from 33 to 50 per cent. It was agreed that the proposed increase should not be applied retrospectively to degree examinations which a student had already passed. An ordinance was also approved increasing the basis of assessment for the purpose of ascertaining the pensions of professors and principals. The question of superannuation of university staffs was also raised, and it was intimated that the four Universities had joined in endeavouring to have a Bill introduced giving them powers to deal with the whole problem. They hoped the measure would give power to establish an age-limit for professors and principals, and that it would enable them to homologate the professorial pensions with those of the lecturers and other members of the staff. A meeting of the University Court held the same day approved of the above draft ordinances. The Court also approved of increased fees in all the faculties, and directed that they should become operative from the commencement of the ensuing summer term.

"Carriers" of Disease.

The Scottish Board of Health have issued a circular letter to local authorities stating that they have had under consideration the spread of infectious diseases by means of "carriers" and the powers of local authorities to deal with such cases. They have accordingly, in terms of the Public Health (Scotland) Act, 1897, drawn up regulations giving the local authority power to deal with any "carrier" of infectious disease in the same manner as if he actually suffered from the disease. Before any person is to be deemed a "carrier" he must, however, be certified as such by a medical officer of health and also by another registered medical practitioner, such certificate to have effect for a period not exceeding three months. Further examinations may be made at any time, and the carrier may demand re-examination during the currency of a certificate. These regulations come into force on March 1st, 1921. The Board have also under discussion the question of special treatment in special classes of carriers, with a view to rendering restraint of the carrier unnecessary. They are also in communication with the Medical Research Council regarding the problem of enteric carriers.

Consultative Council's Scheme for a National Medical Service.

The "Scheme of Medical Service for Scotland," proposed by the Consultative Council, has met with much adverse criticism. Amongst the public objection is taken chiefly because of experience of the working of the National Health Insurance Act, and reluctance is widely expressed at extension of its "benefits" and the ignoring of the question of expense. Amongst the profession the proposal meets with opposition for the same reasons, and also because of the attitude which, it is held, is maintained towards practitioners. Many of the clauses, it is said, assume the hopeless incompetence of the general practitioner at a time when the universities and the medical corporations have raised the standard of medical education to an unprecedentedly high level. The assumption is inconsistent with the experience of medical practice before the days of the Insurance Act. If conditions have altered, State interference must be held responsible say the critics.

Edinburgh University Extensions.

The first meeting of the general committee in connexion with the extension scheme of the University, and the appeal for £500,000 to meet the cost, was held on Feb. 18th, Principal Sir Alfred Ewing, K.C.B., presiding. Letters commending the appeal were read from Mr. A. J. Balfour (Chancellor of the University), Mr. Lloyd George (Lord Rector), and Sir Henry Craik, M.P. Sir Alfred Ewing made an introductory statement, pointing out that there were essentially two sides of University finance—the question of current expenditure, which had recently increased enormously, and of capital outlay. The present appeal was to meet the latter. From time to time there came a crisis in the history of any university, when its material shell became too small for the organism inside it. Fifty years ago they had had such a crisis, with the result that the new buildings had been erected, and thanks to that the Edinburgh Medical School had maintained its proud and unique position. Another crisis was upon them again. In some departments the buildings and equipment were wholly inadequate, as there were now in the University about 5000 undergraduates compared with about 3000 in the old days. At present applications from many well qualified to undertake research had to be declined for lack of room. They were appealing not only on sentimental grounds, but also because of the practical work of recognised value which the universities could do for the country, and which could be done only by them. He hoped the universities would long retain their independent position, but they could only do so if their friends assisted them in times of need. The Chancellor of the Exchequer had said that grants would largely depend upon the efforts made by individual universities and the response to them. They were making their effort now. It was not a good time, but they were obliged to do it. He appealed not only to Edinburgh, but to the sons of the University everywhere. Intimation of subscriptions amounting to about £20,000 was made. Lord Provost Chesser and others spoke in support of the scheme, and an influential committee was appointed for its furtherance.

Feb. 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Doctors as Detectives.

AN Order in the following terms has recently been served on the secretaries of the several general hospitals in Dublin:—

To the Secretary, ... Hospital.

By virtue of the powers conferred on me under Regulation 53 of the Restoration of Order in Ireland, Regulation 1, the undersigned, being a Competent Military Authority under the said regulations, do hereby order you, the secretary, being the person in charge of the ..... hospital, to furnish to me (in writing) the names and descriptions of all persons admitted to your hospital who are or are suspected to be suffering from wounds caused by bullets, gunfire, or other explosives, together with such particulars and information concerning them as may be within your knowledge. Such information is to be furnished by you daily to me at Headquarters, Dublin District, Lower Castle Yard, Dublin. Failure to comply with this Order will render you liable to be proceeded against for an offence against the Restoration of Order in Ireland Regulations.

———, Colonel Commandant,
Commanding Dublin District,
Competent Military Authority,
Lower Castle Yard, Dublin.

A similar Order was subsequently served on the medical officers of various workhouse hospitals throughout the country. As might be expected, the Order has caused a good deal of discussion among the medical men affected. It is recognised that it is the fixed ethical practice of the medical profession that a medical man is not at liberty to disclose information concerning his patient of which he has become possessed in virtue of his professional position toward the patient. It is true that he has no privilege in point of law and that if produced as a witness in court he must answer such questions as he is ordered by the judge, or be willing to be punished for contempt. The present Order goes much further than this. It does not insist that a medical man should give true and full evidence when called on, but that he should of his own motion inform the authorities of the condition of certain of his patients. It is, no doubt, the duty of all good citizens to do what they can, both to prevent crime and to aid the authorities in detecting it, but it is pointed out that one can hardly find a precedent for the imposition on medical men as a special duty that they should act as detectives in the course of their professional work. This is the view of the Order taken generally by the medical profession in Ireland. Apart from the ethical question involved, obedience to the Order would in certain areas of Ireland expose a medical man to grave danger. Up to the present, medical men have performed their professional duties in Ireland without considering any question other than the need for their services. They have attended the sick and wounded regardless of politics or nationality, and on the whole they have enjoyed a certain immunity while doing so. It would be very unfortunate if the military authorities were to press on the medical profession as a whole a line of action which would be regarded as unprofessional. Under the circumstances, I am glad to learn that certain Fellows of the Royal College of Surgeons, feeling the difficulty of their position, have sought advice and aid from the Council of the College. The Council may be trusted to make suitable representations to the military authorities, and it is to be hoped that the latter may see their way to withdraw or cancel an order which is certainly irritating to the profession and likely to be ineffective.

CITY OF LONDON AND EAST LONDON DISPENSARY.—The report and balance-sheet, which will be submitted to the annual meeting of governors of this institution at the Dispensary, 40, Wilson-street, Finsbury-square, on March 1st, shows a satisfactory year's working. The objects of the institution are to supply medical and surgical advice, with medicines, to the poor and destitute; the attendances during the year 1920 were the highest on record, being 161,616. 971 patients received gratuitous care, the others made some weekly payment. Donations and subscriptions amounted to £107 8*s.*, including a sum of £22 4*s.* 6*d.* placed in the dispensary box by the patients; they may be sent to Messrs. Barclays Bank, Ltd., 54, Lombard-street, London, E.C. 3, or to the secretary of the institution, 58, Lombard-street.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Compulsory Typhoid Vaccination.

THERE is in France a movement in favour of compulsory vaccination against typhoid fever, more especially in the event of epidemics. Proposals have also been made to institute compulsory vaccination in districts where sporadic cases are frequently notified. At two of the recent meetings of the Académie de Médecine MM. A. Chauffard, C. Achard, H. Vincent, and Léon Bernard have urged the need for a campaign in this direction. Mons. Bernard recalled a previous communication in which he pointed out that by a mere decree compulsory vaccination against typhoid fever, such as that existing in the army, would be applicable to the civilian population in case of an epidemic. Mons. Bernard was of opinion that it would be difficult to determine by law the age at which such vaccination ought to take place. Mons. Chauffard proposed the age of 15, whereas Mons. Vincent was in favour of vaccination even amongst children. Finally, a committee was formed to study the questions involved, the members of which are MM. A. Chauffard, Léon Bernard, F. Widal, and H. Vincent.

Post-graduate Courses in Paris.

A course in dermatology and venereal diseases, under the direction of Professor Jeanselme, will be held in April, May, and June, beginning on April 11th, at the Hôpital Saint Louis. Lectures will be given from 1.30 to 4 P.M., and the mornings will be devoted to clinical teaching, laboratory work, &c. The fee payable will be Fr.150 for the course, and a certificate will be issued to those who have attended it. Further information may be obtained from Mons. Marcel Bloch, Chef de Laboratoire à la Faculté, Hôpital Saint Louis, 40, rue Bichat (10e), Paris.

A three months' course in electro-therapeutics, radiology, and radium-therapy will be held under the auspices of La Société des Médecins-Chefs des Laboratoires de Radiologie et d'Électro-Radiothérapie des Hôpitaux de Paris, beginning on April 11th. Lectures will be held daily at 6 P.M., and demonstrations in the mornings. The course is free to medical practitioners. Further information can be obtained from Dr. Mahar, Hôpital Trousseau, 158, Avenue du Général-Michel-Bizot, Paris (XIIe).

Modification of the Internat Competition.

There are some 300 house physicians and house surgeons, the so-called internes, on duty in the various Paris hospitals. These Internes des Hôpitaux de Paris, to give their qualification in full, are selected from senior medical students, who can attain to such a post before being registered as medical practitioners. Competitive examination takes place every year amongst those students who have already obtained by competition the grade of Externe des Hôpitaux. The "Concours de l'Internat" takes place annually in October. The candidates number a few hundred, from whom the first 60 are selected as internes and hold this post for four years. Every year each interne becomes assistant to a different chef-de-service, who may be a surgeon or a visiting physician to the same hospital or a different one. Internes are able to choose the post desired according to their precedence in classification. Candidates are asked to write a two hours' paper on anatomy and one on medicine or surgery, and are required to read their own papers before juries composed of ten surgeons and physicians. Some 200 candidates are selected from this preliminary competition and are then subjected to oral tests from which 60 emerge triumphant, being made Internes Titulaires with the privilege of becoming a resident at any of the Paris hospitals under the administration of the Assistance Publique. About 100 others are made Internes Provisoires, and are entitled to compete again the following year. A number of physicians and surgeons are of opinion that the form of the competition should be revised. It is proposed that an eliminating examination should be held in July, consisting of a paper on anatomy, and a second competition

should take place in October, consisting of three papers on anatomy, medicine, and surgery. In these parts of the competition the names of the candidates would not be disclosed to the examiners. An oral competition on the lines of the second part of the present internat would complete the ordeals. Apart from this suggestion, which seems to be the most in favour, there have been other reforms suggested, but the authorities have not yet come to a definite decision on the matter.

The Budget of the Assistance Publique.

The Administration Générale de l'Assistance Publique, which involves the management of nearly all the hospitals in Paris, has been granted a budget of Fr.228,486,330 by the authorities of the Conseil Municipal de Paris, in accordance with the conclusions of the committee of management. The present chairman, known as Directeur-Général de l'Administration de l'Assistance Publique, is Mon. Louis Mourier, formerly Sous-Secrétaire d'État au Service de Santé Militaire, who succeeded Mons. G. Mesureur on his retirement in November last.

New Wing to the American Hospital in Paris.

A committee has been formed in order to deal with suggestions for improvements at the American Hospital in Paris, which is to have a new wing. The cost will amount to $400,000. There are now 32 beds in the hospital, and it is intended to increase this number to 100.

A Surgical Member of the Académie des Sciences.

The election of a surgeon to replace the late Professor F. Guyon as Membre Titulaire de l'Académie des Sciences has aroused much interest. The names of the following surgeons had been suggested: MM. Pierre Delbet, J.-L. Faure, E. Hartmann, F. Legueu, T. Tuffier, and Pierre Bazy, and it is the latter who has been selected for the honour.

Feb. 16th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Outbreak of Exanthematic Typhus.

AN attack of typhus exanthematicus has recently occurred in the city and has not yet been suppressed. Sixteen of a party of 21 foreign artists arriving here after a tedious journey from Odessa were taken ill almost simultaneously and brought to the isolation hospital; soon afterwards another group of nine persons, also late arrivals from South-Eastern Europe, were discovered suffering from the same disease; and a few days later seven more cases were discovered. This last group also consisted of foreigners from various countries, having no connexion whatever with the first two groups of patients. Four persons have died up to date; all necessary precautions have been taken to prevent a spread of the infection. During the war the city was comparatively free from typhus; an occasional case was found amongst the soldiers, but rapid control of such small foci was always established, thanks to the excellent work of the disinfecting group of the sanitary staff. As the population is almost completely free from lice, infection hardly ever took place.

Precarious Position of General Practitioners in Vienna.

At a meeting of the Vienna Organisation of Practitioners, not intended for public notice, the critical position of a large percentage of the doctors in Vienna was discussed. Apart from a comparatively small number of specialists and surgeons, medical men can hardly contrive to earn a living. The Krankenkassen doctors have recently succeeded in forcing the insurance clubs to pay them substantially increased fees, but they have lost nearly all their private practices. The population is itself so impoverished that people cannot afford to pay the comparatively high fees of a private doctor during a long illness. The family doctor is rapidly disappearing, for his middle-class patients are forced to apply to hospitals or out-patient departments and renounce all ideas of comfort during illness. Servants are now so expensive that many doctors have to do without them, taking their meals with their families in the "war kitchens" where the food supplied is below the usually recognised standard of quality. It is impossible for the doctor to buy new clothes or keep a carriage, and an increase of the rate of fees is no longer feasible. The medical organisation is working hard to assist men whose position would otherwise be quite untenable.

The Biological Society of Vienna.

At a recent meeting of the Biological Society of Vienna the problem of the interstitial cells of the sexual glands was discussed. Professor E. Steinach's experiments led him to declare that by causing a proliferation of these cells rejuvenation of the organism can be produced in a marked degree. Professor J. Kyrle stated his opinion that the interstitial cells do not directly produce the secondary sexual symptoms, but augment the action of the specific generative cells. Steinach's operation causes a marked change in the circulation and metabolism in the testicles, thus producing an increase of the interstitial cells. Professor Steinach said that he was not the originator of the method, but that he had continued the work of other men. He showed rats and specimens of rat testicles and ovaries which had been subjected to his operation. Amongst them were four rats of one family—a normal masculine rat, a normal sister, a castrated sister, and another castrated sister in whose body a testicle had been implanted. The last had the external appearance of a powerful male rat. Histological examination of the implanted testicle showed that the specific glandular cells disappear, whilst the interstitial cells become hypertrophied. This fact, Professor Steinach maintained, shows that the appearance of male characteristics in a previously female organism is due to the interstitial cells. Professor J. Tandler remarked that the duration of the rejuvenating effect in man was still unknown, and that the results of animal experiments are not simply applicable to human physiology; therefore he was opposed to the operation on man. Professor G. Holzknecht said that the method of rejuvenation by means of X rays was in no way deleterious, as far as is known at present. In a large number of cases exposed for various reasons to Rontgen rays within the last 20 years neither in men nor women had any bad effect been observed; nor amongst the numerous physicians and X ray assistants who within the last 15 years had, no doubt, occasionally been exposed in such a way that their sexual glands were influenced had a single case of "hyper-hormonisation" been observed. The first and principal proposition of Professor Steinach—"sexual hormones are specific for the sex"—was, in the opinion of Professor Holzknecht, proved, and this was the basis of Steinach's teaching. Professor Lichtenstern said that by introducing the method of transplantation into therapeutics it had become possible to treat such hitherto refractory conditions as eunuchoidism and homosexualism. He was the first man in this country to ligate the vas deferens, not as an experiment, but from precise surgical indications. As no ill-effects were noted after the lapse of one year he carefully selected cases of precocious senility and adopted the ligation with the idea of obtaining similar results to those of the rat experiment. The cases were kept under observation for from two to two and a half years; no untoward effect had yet been observed. In females surgical castration was not adopted; massive doses of X rays were given, producing interstitial inflammation of the glandular tissue. The favourable effects noted in former years after X ray treatment of myomatous conditions of the uterus were, in Professor Lichtenstern's opinion, due to this cause.

Feb. 14th.

LITERARY INTELLIGENCE.—Messrs. Oliver and Boyd announce the early publication of the University of Edinburgh "Roll of Honour," 1914-1919, edited by Major John E. Mackenzie.—Messrs. Cassell and Co., Ltd., announce the forthcoming publication of the seventh edition of Sir Patrick Manson's "Tropical Diseases."

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

CITY OF LONDON.

OWING to the exigencies of war Dr. W. J. Howarth's annual report for 1919 is practically the first report of its kind presented by him during his seven years' tenure of office to the Lord Mayor, Aldermen, and Commons of the Corporation of London. Previous summaries have consisted of abbreviated tabulations of statistics and scant references to the work done during the year. In Dr. Howarth's view, the annual report of a medical officer of health should be a document in which not only results and records are set out, but in which this officer is able to bring to the notice of his authority the arguments for and against current proposals, and in which he is permitted reasonable latitude to state his own views thereon. An expression of opinion of this character does not necessarily commit the authority, but it furnishes members with information to enable them to consider the situation and partially to be in a position to criticise, vary, or support the policy which the medical officer of health may subsequently submit for consideration or adoption.

In the case of the City of London this requirement is as necessary as in other districts, for although the resident population has decreased to practically insignificant numbers it occupies the position of an authority which has a tradition behind it, centuries old, of interest in all matters which concern the welfare of the inhabitants of this country in general and those of its citizens in particular. If ever the Corporation were to take the view that its responsibilities were limited to safeguarding the health of the few thousands of resident inhabitants, its interest and action in public health affairs will then approach the parochial. Fortunately, there is neither indication nor danger of this state of affairs developing, for the Corporation continues to take the keenest interest not only in the night population, but in the welfare of those who return daily to the square mile which constitutes the City to earn their livelihood. It must be acceded that in many matters relating to later developments in State medicine the direct interest of the City is slight. These developments more and more emphasise the fact that the individual unit must play an important part if future improvement is to result. In this connexion the influence of the Corporation can be most effective. The very freedom of the City from direct interest enables it to give a decision on policy which is free from suspicion of ulterior motive. Its judgments become those of a body influenced only by the consideration of what is most advantageous to the many. Historical records show that from the earliest days of this country's development the City interested itself not only in public health matters but also in curative medicine and in organisations of direct professional concern. The letter-books of the Corporation, which continue to be issued at intervals, throughout their pages illustrate instances of the Aldermen and Court of Common Council exercising authority. Preventive measures adopted in the City during the plague period have proved the basis of many modern developments. Interest in the medical treatment of the poor was shown when the Corporation undertook responsibility for the administration of St. Bartholomew's Hospital in the sixteenth century, and the development of the controlling colleges of both physicians and surgeons have followed the interest which the Corporation took in the profession at the instance of members of the early guilds.

Dr. Howarth might, in our opinion, have added to this brief account of the City's activities in health matters the fact that Sir John Simon, who subsequently became medical officer to the Privy Council and Local Government Board, and who laid the foundation of our modern system of public health administration, was the first medical officer of health of the City of London, having been appointed by the Corporation in the year 1848.

Dr. Howarth's object in referring to these matters is to direct attention to what would appear to him to be the unfortunate effect of any interference with the autonomy of the Corporation which might cripple its initiative, or subordinate its authority. Whatever developments result in public health administration in London, and such are undoubtedly necessary, he is satisfied that the City may advantageously be left as a separate authority subject only to the controlling power of the Ministry of Health. We entirely agree with Dr. Howarth's contention and we hope that the Corporation of the City of London will be left to manage its own affairs, which it has always shown itself eminently capable of doing.

Dr. Howarth makes some interesting remarks on the important subject of medical treatment in general.

He points out that increased responsibility for medical treatment is being placed upon the public health authorities, and alludes to Sir George Newman's valuable report on the principles to be observed in coördinating the two great divisions of medicine—namely, preventive and curative. The first result of this report has been the reference to the Consultative Council on Medical and Allied Services under the chairmanship of Lord Dawson, "to consider and make recommendations as to the scheme or schemes requisite for the systematic provision of such forms of medical and allied services as should be available for the inhabitants of a given area." This committee has now reported to the Ministry of Health, and the resulting document is of considerable interest. It was hardly to be expected that any strikingly original idea would be put forward, and its great use lies in the fact that it has considered all existing suggestions and has selected the best elements in these, and with additions has framed an ideal scheme outlining the final organisation which should be aimed at to secure that the best medical treatment shall be available for persons requiring it. Criticism of the report is unnecessary since it suggests that it only deals with principles. On broad lines it is acceptable, but it would appear to lack the practical touch, and expense alone would prevent any attempt to put the scheme into immediate operation, though the time has now arrived when the important aspect of progressive development should be considered.

It is, of course, essential that medical treatment shall be so coördinated that the many specialised branches of treatment may form one piece of smooth running administrative machinery, but if the machinery provided is to be of the greatest service, it is equally necessary that the means which will ensure the masses availing themselves of the facilities shall also exist. Future organisation must be such that will encourage cases of early illness to come under treatment in the more certain remediable stages, and, if treatment is to be the helpmate of prevention, the medical practitioner must be educated in the fuller appreciation and the real import of early symptoms, and also in drawing conclusions from the nature of the illnesses which are observed in the group of patients for which he is responsible.

Dr. Howarth suggests that consideration should be given to the following points: What is the most practical method which will ensure that persons will seek medical treatment early, or that incipient disease will be recognised at an earlier date than is now the case? Ought the principles of National Insurance to be extended, and, if so, to what extent, and how should the cost of such extended facilities be met? How can the poor, who are now included in the Insurance scheme, be brought into a scheme of national treatment and still remain free from the stigma of pauperisation and free from risk of involvement in invidious distinctions? How can the activities, knowledge, and experience of general practitioners be best utilised in preventive work? How can existing institutions be adapted to help in the development of the system? Can existing local authorities be vested with the power of providing national treatment, and the medical profession, which is so intimately concerned in this work, be given a share of the responsibility?

Other suggestions could be introduced, but these appear to Dr. Howarth to be of the most pressing importance, and any practical scheme using existing machinery modified and extended as the circumstances seem to require, is the immediate essential. Alteration in the matter of the treatment of the indigent poor, which is at the present time undertaken by the Poor-law authorities, appears to Dr. Howarth to be premature and undesirable until the details of future development have been considered and decided upon. Variations, whatever they may be, should be on lines which will ensure that they fit in the new programme. If they do not, radical change will again be necessary in the near future. It has been suggested that the visitation of sick poor by the staff of the medical officer of health should be undertaken. This, in Dr. Howarth's opinion, would be a duty which is outside the scope of the medical officer's functions. These are mainly administrative, and, even if the proposal were put into effect as a temporary measure, there would still be the sentimental objection which attaches to charitable relief, and that objection would exist so long as an individual requiring relief is singled out for special consideration. With the extension of National Insurance it does not seem an improbable proposition to provide for the poor, as well as for those who are able to pay weekly contributions.

URBAN VITAL STATISTICS.

(Week ended Feb. 19th, 1921.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate population estimated at 18½ million persons, the annual rate of mortality, which had been 12·3, 13·1 and 14·0 in the three preceding weeks, further rose to 15·4 per 1000. In London, with a population of 4½ million persons, the death-rate was 14·2, or 1·0 per 1000 above that recorded in the previous week, while among the remaining towns the rates ranged from 7·5 in Wimbledon, 8·3 in East Ham, and 8·5 in Lincoln, to 22·8 in Sunderland, and 23·7 in Bournemouth and in Dewsbury. The principal epidemic diseases caused 239 deaths, which corresponded to an annual rate of 0·7 per 1000, and comprised 78 from infantile diarrhœa, 65 from diphtheria, 47 from whooping-cough, 26 from measles, 21 from scarlet fever, and 2 from enteric fever. Measles caused a death-rate of 2·4 in Middlesbrough, and whooping-cough of 2·0 in Warrington. There were 3919 cases of scarlet fever and 2808 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 3945 and 2770 respectively at the end of the previous week. During the week ended Feb. 12th 16 cases of encephalitis lethargica were notified in the County of London, and comprised 2 each in Hackney, Islington, Lewisham, and Stepney, and 1 each in Battersea, Finsbury, Greenwich, Hammersmith, Kensington, Poplar, St. Pancras, and Southwark. The causes of 33 of the 5488 deaths in the 96 towns were uncertified, of which 7 were registered in Birmingham, and 3 each in London and Middlesbrough.

Scottish Towns.—In the 16 largest Scottish towns, with an aggregate population estimated at nearly 2½ million persons, the annual rate of mortality, which had been 16·3, 14·9, and 17·4 in the three preceding weeks, rose to 18·2 per 1000. The 394 deaths in Glasgow corresponded to an annual rate of 18·7 per 1000, and included 36 from whooping-cough, 7 each from diphtheria and infantile diarrhœa, and 1 each from measles and scarlet fever. The 143 deaths in Edinburgh were equal to a rate of 16·7 per 1000, and included 5 from measles, 2 each from scarlet fever and infantile diarrhœa, and 1 each from diphtheria and whooping-cough. A fatal case of small-pox was registered in Kirkcaldy.

Irish Towns.—The 148 deaths in Dublin corresponded to an annual rate of 18·2, or 0·7 per 1000 below that recorded in the previous week, and included 2 from infantile diarrhœa and 1 from diphtheria. The 149 deaths in Belfast were equal to a rate of 18·5 per 1000, and included 13 from whooping-cough and 2 from infantile diarrhœa.

Obituary.

WILLIAM ODLING, M.B. LOND., F.R.C.P. LOND., PH.D. LEYDEN, F.R.S.,

LATE WAYNFLETE PROFESSOR OF CHEMISTRY, OXFORD.

William Odling, who died at Oxford on Feb. 17th in his ninety-first year, was a well-qualified member of the medical profession, although his fame as a chemist was greater. The son of a surgeon, he was born in London in 1829, and subsequently studied medicine at Guy's Hospital, graduating M.B. at the University of London in 1851. After qualifying he went to Paris, where he became a pupil of Gerhardt, the Strassburg chemist whose influence largely determined his later studies. On his return to England he was appointed director of the chemical laboratory at Guy's Hospital, and in 1863 lecturer in the same subject at St. Bartholomew's Hospital. He became a Fellow of the Royal College of Physicians of London in 1859. In 1868 Odling was appointed Fullerian Professor of Chemistry at the Royal Institution in succession to Faraday, holding the post for four years, and succeeding Professor Benjamin Brodie in the Waynflete chair of chemistry at Oxford. Here he spent the remainder of a long life until his retirement in 1912. Odling contributed much to the literature of his specialty; it was he who suggested the use of the terms "monad," "dyad" &c., in connexion with the valencies of chemical elements. His popular exposition of chemical processes and experiments charmed the boyhood of many of the present generation. The effect of a medical training on his chemical work is shown in the attention which he devoted to such subjects as the chemistry of bread-making, the purification of rivers, and the analysis of drinking water.

Correspondence.

"Audi alteram partem."

REFERRED PAIN.

To the Editor of THE LANCET.

SIR,—The discussion in your columns on referred pain is very interesting, especially Dr. J. A. Ryle's remarks on the variation of hyperæsthetic areas with the presence or intensity of the pain. Personally I admit I have not been sufficiently alive to this variation. In cases of ulcer of the stomach or duodenum in hospital the patients usually have been set at rest, diet regulated, and so on, by the resident staff before they come under examination before a class; then the teacher finds, accordingly, that the percentage of paræsthetic phenomena is low. The same variation applies in angina pectoris, at any rate in single consultations, as attacks may not have occurred recently. The family physician has more opportunity of observing the attacks and their epiphenomena. Time after time I have looked for them in vain, although I may have been assured by the patient or his doctor of their incidental appearance.

But this is by the way. I write more definitely to carry forward the interesting observation of the arousing or increasing of pain about an ulcer by distension of the stomach. I think none of your correspondents has quoted the experiments and conclusions of Dr. H. K. Anderson, the Master of Caius, on this side of the inquiry. I have given a fairly full account of Anderson's hypothesis in my book on "Arterial Disease." It is shortly as follows:—All sensation is cutaneous. In the course of evolution the viscera are formed by introversion, packing inwards, of the surface, so that, however involved, each viscus has still its portion of under-skin carried in with it. These portions we call the investments, or capsules, of the several viscera, such as pleura, pericardium, peritoneum, and so forth. In my book I use this hypothesis to explain certain phenomena of angina pectoris, pains that arise most frequently in the investments of the aorta. These cutaneous investments of the viscera carry with them their sensory end-organs, Pacinian bodies, &c. If this be so, and in this the histologists (Dogiel and others) are agreed, we should expect to find, as we do find, these end-organs, not in the parenchyma, but in the investment of the organ observed. It is true, therefore, that, speaking generally, the viscera are insensitive in their substance, but are sensitive, often exquisitively sensitive, in their capsules. Hence, for instance, the pain on distension of the stomach—the investment is put on the stretch. The bowel again is insensitive so long as the mesentery is not put on the stretch, but, drag on this cutaneous investment, and pain awakens. Pains, then, are referred not from the viscus but from its overcoat. Many a local disease remains painless so long as such an investment is not irritated or pulled upon. So far I venture to demur to Dr. A. F. Hurst's axiom that "the viscera themselves are sensitive" (p. 348, col. 2). The heart, let me say, is in its substance insensitive, and the pericardium is so continually subject to changes of diameter as to be less sensitive to drag than, say, the mesentery; but when the pericardium is sharply stretched beyond its mean—as, e.g., by a coronary embolism—acute pain may arise. Morphologically, then, all sensations are cutaneous in seat, whether directly visceral or referred; whether they originate in the implicated skin and end-organs—as we see profusely (say) in the mesentery, or in the investment of the aorta, and so on—or directly on that actual surface which only we are accustomed to call the skin. When an irritant affects the investment of a viscus the pain is already cutaneous, but, as in the inpacking, the surfaces are distorted, the corresponding layer of outside skin has often been drawn away from the underpart of it which is still attached to the viscus affected. I am, Sir, yours faithfully,

Cambridge, Feb. 19th, 1921. CLIFFORD ALLBUTT.

X RAY TREATMENT OF RINGWORM.

To the Editor of THE LANCET.

SIR,—I am of the opinion that the warning and recommendation of the Medical Defence Union (THE LANCET, Jan. 1st, p. 48) is an unnecessary one. In the first place, workers of X ray treatment for ringworm have already gone through the mill of prejudice and fear from parents who had heard of dire results, in days not long since passed, when the skeleton of "burnt heads" and "no hair" was put forward—with, undoubtedly, some reason—owing to unfortunate results obtained by early workers in producing permanent alopecias. Unfortunately, rumours of this kind are always exaggerated as they go from one parent to another. Some of the tales related by parents to me some six or seven years ago would have been sufficient, if really credited, to have produced hair-raising results without the application of X rays to both "operator" and "operated on."

At the present time I am happy to say that, after having treated over 800 cases without a single failure, it is now quite a different tale, and that parents may almost be said to be clamouring for X ray treatment rather than go on for months with drug treatment. True, there are some cases, but a very small number, who from idiosyncrasy develop a definite reaction and suffer from erythema, or even a slight pustular eruption, as the result of X ray application, but under appropriate remedies these quickly subside and the resulting growth of the hair is in no way retarded or diminished; in fact, I am of the opinion that as a result of the increased supply of blood during this period to the hair follicles, that the growth is often more rapid. Then why raise the voice of the general practitioner in warning parents against such trivial occurrences, or even raise the suspicion of the general practitioner himself, who, in most cases, is not cognisant of the pros and cons of the working of X ray treatment for ringworm?

800 cases means 4000 exposures, the carrying out of each exposure means a separate operation necessitating the maximum attention to detail. As Dr. W. Mitchell, of Bradford, says, the X ray treatment of tinea tonsurans is the most exact and exacting form of treatment there is. I would go further and say it is also most tedious and monotonous, varied only by the extra burden of a fractious child. I work also with a small milliampèrage (0·5 m.a.) with current 80 volts 5 amperes. In all cases the whole head is epilated by the Kienboch method with a light tungsten target tube, the five exposures being checked by Sabouraud and Noire's pastilles. After-treatment needs great care, and although Dr. C. W. Hutt considers it necessary in 1 out of 10, I make every child attend regularly for a fortnight to have the necessary stumps epilated by the school nurses to ensure that no form of infection is left. Some children are fit to return to school at the end of three weeks, the general average is, however, about 28 days.

In my opinion the essential points for success in the Kienboch method of treatment are to direct each irradiation at right angles to the direction of irradiation of adjacent areas and to aim not at a point in the centre of the vertex of the lower occiput or of the side of the scalp, but toward the outer margin of these areas, so that half the dose goes on to the scalp and half on to the shield protecting the face and the neck. If these precautions be taken there is no risk of over-exposure at the overlapping margins of the rayed areas. In practice the dosage works out so nicely that every part receives an equal amount and depilation is total and complete without anywhere a sign of over- or under-exposure.

The chief causes of failure are: (1) Under-exposure, so that an imperfect defluvium of the hair takes place and infected hairs are left; (2) omission of a focus of disease in the exposure; (3) insufficient thoroughness in the after-treatment. With recent methods of treatment and ordinary care there should be no failures.

I am, Sir, yours faithfully,

VICTOR J. BLAKE, M.B., B.S. Lond.

Portsmouth, Feb. 8th, 1921.

THE FINE CHEMICAL INDUSTRY.

To the Editor of THE LANCET.

SIR,—We, the undersigned, makers of fine chemicals, extended our research and manufacturing plant at the urgent appeal of the State during the tremendous years that followed 1914 in order to secure those essential products of science without which victory could not be attained. The full record of wartime achievements in the sphere of fine chemicals would read like a romance were the full history disclosed. This key industry is now endangered, and unemployment is rife in it, owing to the flood of imports from abroad which, among other circumstances, the present condition of the exchanges makes devastatingly possible.

We desire to submit to public knowledge the following facts:—

1. The application of chemical science to industry is a necessary factor for the preservation of our world position in commerce. It is also true to say not only that the chemist and the laboratory are in the first line of national defence, but are pivotal in the development of our industrial and commercial resources and wealth.

2. At very considerable cost essential plant was erected during the war years, and all of it can now be put to peaceful purposes for the continuance in this country of a fine chemical industry not inferior to Germany's. But under the present unfair economic circumstances this plant must become idle and useless unless the State takes measures for its safeguarding.

3. The Fine Chemical Industry, mobilised and expanded in the hour of the nation's needs, provided during the war—to give a few examples—(*a*) essential medicinal preparations for naval, military, and civilian hospitals; (*b*) the higher forms of explosives and gases; (*c*) photographic chemicals for aerial use; (*d*) research chemicals, without which the development of many new industrial processes would have been impossible.

4. British science is no whit inferior to that of competing nations, nor are British chemical manufactures inferior in quality.

We feel it is our bounden public duty to make known to the country the national importance of an industry which is indeed a key to the unlocking of many doors of economic wealth in the future.

We are, Sir, yours faithfully,

STAFFORD ALLEN AND SONS, Ltd.; A. BOAKE, ROBERTS AND CO., Ltd.; BOOTS PURE DRUG CO., Ltd.; BRITISH CELLULOSE AND CHEMICAL MFG. CO., Ltd.; BRITISH CYANIDES CO., Ltd.; BRITISH DRUG HOUSES, Ltd.; BRITISH VEGETABLE PRODUCTS, Ltd.; BURROUGHS, WELLCOME AND CO.; W. J. BUSH AND CO., Ltd.; J. M. COLLETT AND CO., Ltd.; EVANS, SONS, LESCHER AND WEBB, Ltd.; GRAYS DYES AND CHEMICAL WORKS; HOPKIN AND WILLIAMS, Ltd.; HOWARDS AND SONS, Ltd.; JOHNSON AND SONS, Mfg. Chemists, Ltd.; LONDON CHEMICAL WORKS, Ltd.; MAY AND BAKER, Ltd.; THOS. MORSON AND SON, Ltd.; PIERSON, MORRELL AND CO., Ltd.

Feb. 19th, 1921.

THE OPERATIVE TREATMENT OF PROLAPSE.

To the Editor of THE LANCET.

SIR,—In reply to Mr. J. P. Lockhart-Mummery's letter in your issue of Feb. 19th I did not advocate the use of "paraffin wax injections" in a general sense, but only the "submucous injection of paraffin wax," as described by me in THE LANCET, 1904, vol. ii., p. 759. This may sound egotistical, but it is the attention to detail that makes all the difference. Consideration for your space will not permit me to reproduce the technique here, but the most essential points are that the paraffin is injected into the submucous layer only at a temperature just above its melting point, so that it solidifies at once and does not travel, while the prolapse is still outside the anus, and so as to constitute separate nodules arranged circumferentially around the rectum in definite tiers. With these precautions I fail to see how a "tunnel stricture" could result; probably in the case he mentions the wax had been introduced in too fluid a state and had completely surrounded the rectum in a continuous sheet. At any rate, I have never seen any sign of

stricture in any of the 29 cases I have treated by this method, and the only trouble of any kind has been slight suppuration of the wound of the plastic portion of the procedure in two of the cases; in one of these some particles of wax were discharged from the lowest tier, but without detriment to the ultimate result. From letters received from time to time from surgeons who have followed the details of my technique I know that others, besides myself, can obtain good results. Within the last month I have received two such letters, from Mr. A. H. Godson, F.R.C.S. Eng., of Oldham, and Dr. G. A. Robinson, of Nottingham, each reporting a recent success. I do not know the details of their cases, but Dr. Robinson describes the success in his patient as amazing."

However, I have never considered nor advocated my method as an ideal procedure; I merely state that results can be obtained with it at least as successful, both immediately and remotely, as those by any other published method, and that with a very much simpler and shorter after-treatment. Like Mr. Lockhart-Mummery, I would much prefer to dispense with the introduction of any foreign body into the tissues, and have therefore tried other methods, including that of Moschowitz, as I mentioned in my previous letter—a method which appeals to me strongly as being far more scientifically designed than either Mr. Lockhart-Mummery's method or my own—but with inferior results. I have not tried Mr. Lockhart-Mummery's method, as one feels rather shouldered off from an operation of which the author says, "sepsis later is almost certain to occur ..... and is, in fact, desirable." I can imagine that the aid of sepsis, once invoked, might prove at least as difficult to control and as fraught with ultimate dangers as that of paraffin wax. I am the more disposed to give it a trial, however, since it would appear, from Mr. Aslett Baldwin's remarks in the discussion following the reading of Mr. Lockhart-Mummery's paper, that by the use of gauze soaked in 1 in 1000 proflavine solution this can be prevented and the after-treatment simplified.

From Mr. Lockhart-Mummery's silence on the point I presume he now admits that his analogy of his operation to the radical cure of hernia was not conceived in his happiest vein.—I am, Sir, yours faithfully,

Manchester, Feb. 20th, 1921. ARTHUR H. BURGESS.

AS OTHERS SEE US.

To the Editor of THE LANCET.

SIR,—Since medical practice came within the sphere of politics, no one who mixes much with ordinary people can doubt that the status of the general practitioner has steadily declined. And the interesting question arises: Is this an early symptom, indicating the onset of a disease, whose more serious manifestations may be prevented by a little timely attention to moral hygiene; or is it a physical sign, indicating that appreciable structural changes have already taken place, for which the best that can be done is but of the nature of a palliative, or of a valetudinarian regimen calculated to preserve a long period of invalidism before the final collapse? Another interesting question is this: Has the disease, whatever it is, but lately appeared; or is it merely that new instruments of precision have made its diagnosis easier and more obvious?

First of all, then, what has happened to our status since 1913? We have always had hostile critics who mistrusted our alleged skill and knowledge, as well as our assumption of philanthropy. But these critics were numerically few. The generality of people took us pretty much at our own more complacent valuation, and attributed to us not only knowledge which we all know to be a grotesquely excessive estimate, but a public and self-sacrificing spirit beyond that attributed to any other class of men. Now, it is an undoubted fact, at last recognised even by our educationalists, that a man, woman, or child tends to live up or down to his reputation. Give a dog a bad name and he will soon deserve it. Admiration often breeds many of those qualities which evoke admiration. Gratitude breeds generosity. Praise often breeds nobility. And I think it can fairly be said that, although the average doctor was, as he is to-day, just an average man, and although, naturally, among so many thousands of average men were to be found the usual proportion of the sordid, the unimaginative, the inherently vulgar, the men whose only notion of successful living was that of the constitutional "wrong 'uns" of society, based on the rule, "Get all you can; give as little as you can"—what we may call the Cad's Code; yet, among the rest, most men took a personal pride in justifying, to a greater or less extent, the popular estimation of the doctor's moral code. Of course, one need not be much of a cynic to realise that many manifestations of apparent public spirit and generosity were not entirely of æsthetic or altruistic origin. But there certainly was a very large element of genuine honour, genuine professional pride, of desire to "play the game." The tradition of the Hippocratic oath still had some potency.

I am not in a position to state what is the present general view of the doctor's standard of conduct among the middle classes, but among the wage-earning classes opinion has entirely changed. To an increasing extent the doctor is regarded as a tradesman in the worst sense. Unless there is overwhelming individual evidence to the contrary, it is apt to be taken for granted that the general practitioner—which term is now almost synonymous with panel practitioner—is the sort of man I have described above as the decadent exception, the man whom we can justly characterise as the Cad in Medicine. Is the working man right in his estimate? If not, to what is his change of opinion due? Unless we analyse the symptom, trace its causation and deal with it, it is pretty certain that, whether or not it is true at this moment, it will, by the mere force of suggestion, shortly become true.

I have taken a good deal of trouble to find out what are the facts on which the working-class view of the doctor and the doctor's code is based; and I have been driven to the conclusion that his judgment has some basis in real and actual facts—facts indicating morbid change. I believe that, to some extent, an actual change has occurred in the doctor's morale and its manifestations. In spite of its many good points and beneficent potentialities, the Insurance Act has not, on the whole, altered for the good the attitude of the average practitioner towards his work and towards his patients. On the contrary, it has tended to materialise it. I do not believe that this was inevitable or inherent in the scheme itself, but actually, owing to concomitant circumstances, it has so worked out.

But this real change has not, so far, been sufficiently great or general to account, by itself, for the much greater change in public opinion. There has, beyond doubt, been an increasing number of men, who, having discovered that under the panel system it was possible to get a substantial income in return for a minimum of indifferent service, have taken advantage of that discovery to play the parasite on their fellow men. But the majority of practitioners have still been mainly influenced by the traditional code, combined with such modicum of the artistic spirit, the impulse to efficient self-expression, as they happened to embody. In other words, whilst keen on getting as much money as they could, they have been little less keen on doing their work as well as they could. Such men, I believe, make up the bulk of our profession; as I believe, in spiritual essence, they make up the bulk of our countrymen.

What, then, is the additional factor responsible for the increasing loss of good repute which we have suffered? It is needful only to have attended almost any of the meetings (other than purely scientific ones) called by members of our profession within the last few years, or to have read the letters and articles on what we may call medical politics contributed to various organs of medical opinion—especially those uninfluenced by old traditions—to understand and to realise how the change has been brought about. The incessant talk about money, and the almost complete absence of any expression implying a realisation of the responsibilities and sacredness of our craft or of our duties in utilising for the public welfare the special knowledge with which

we have been entrusted, have done their work. In other words, we have again been taken at our own valuation. We are increasingly regarded by the wage-earning classes much in the same way as, justly or unjustly, the more prejudiced sections of the middle-class regarded the miners during their recent strike. So far as our public expressions have gone, we have taken up the line, which, quite excusably, however mistakenly, has been adopted by those who, with considerable justice, regard themselves as the economic victims of our industrial system. And we cannot plead their excuse. We may have our grievances against society, but they are trivial. It is only needful to devote five minutes' study to the national income and to the average available dividend, and to compare them with the average doctor's income, to realise that, so far from being economic victims, we are among the luckier grades of the privileged.

Such grievances as we have, let us try to get remedied by all means. But for Heaven's sake let us utilise our pseudo-scientific education in cultivating some sense of proportion. Our chief professional ethic should be directed to the maintenance of the purity of our professional code, and to the devising of the most effective social mechanisms to assist us in functioning adequately. Of course, if our material existence is in danger, and consequently abnormally intrudes on our attention, we cannot function properly. And many workers are in such a position. They, excusably, talk about little else than getting their wages raised. It is the merest humbug to pretend that we are in any such position.

It is high time that the great silent mass of the profession asserted itself, and took steps to demonstrate to the public that a doctor is something more than a grouser; that we are not just profiteers, prepared to use our monopolist position in order to hold the community to ransom; that it is from honest motives that we feel a man's pulse with our right hand, not merely to hold his attention while we pick his pocket with our left. It is high time also that the ethical committees of the profession woke up and realised what is at stake. It should not be such bodies as lay insurance committees that the slackers and parasites of our profession should fear, but the condemnation and practical ostracism of all that is decent, scientific, artistic, honest, and public-spirited within our own ranks. And I am firmly convinced that these characteristics still mark the great majority of English practitioners, unobtrusive and unvocal though they are.

I am, Sir, yours faithfully,

Harford-street, Stepney, Feb. 19th, 1921. HARRY ROBERTS.

THE SEPARATION OF PRESCRIBING AND DISPENSING.

To the Editor of THE LANCET.

SIR,—The communication by Mr. H. C. Richards under this heading, which appeared in THE LANCET of Feb. 5th, invites comment. Mr. Richards states that "the pharmacist is primarily licensed to keep open shop for the retailing and dispensing of poisons *only*, whereas the apothecary's assistant is a qualified dispenser of all substances used in medicine—*poisons or otherwise*" (the italics are mine). From which the inference might be drawn that the apothecary's assistant is legally qualified to dispense, but the pharmacist, legally, should limit his dispensing to poisonous substances.

As a matter both of fact and (unfortunately) of law, anyone may *dispense* any drugs, but must not *sell* any poisons which are at present included in the schedules of the Pharmacy Act, or may be in future added to those schedules, on the instance of the Council of the Pharmaceutical Society and approved by the Privy Council. The apothecary's assistant, as far as the dispensing of drugs is concerned, is precisely on the same footing as the herbalist or the grocer. The Society of Apothecaries has authority to give a certificate to persons to act as dispensers to apothecaries only. As regards other dispensing, it has no powers not possessed by any trades-union.

The Pharmaceutical Society enjoys statutory authority to issue certificates of qualification for the practice of pharmacy in open shops. Its standard of efficiency is high, and is recognised as such in dispensaries, infirmaries, and hospitals throughout the country.

I am, Sir, yours faithfully,

J. O. BRAITHWAITE,
Editor of the "Year-book of Pharmacy."

Chingford, Feb. 15th, 1921.

*** We have received other letters in the same sense.—ED. L.

DURATION OF THE VENTRICULAR COMPLEX.

To the Editor of THE LANCET.

SIR,—In your issue of Sept. 4th, 1920, Dr. H. Wallace Jones, of Liverpool, published a very interesting note on a case in which an electrocardiograph was taken 12 hours after spontaneous respiration had ceased. The author states that the tracing shows normal rhythm, with some lengthening of the ventricular complex. I should like to point out that the lengthening of the complex is very considerable, and that this is a very uncommon and a very interesting phenomenon. In Dr. Jones's tracing the rhythm of the pulse is 52, and the duration of the ventricular complex about 0·55 sec. Normally, the duration of the complex with this rhythm of pulse would be 0·40 sec., with a standard deviation of 0·015 sec.[1] In pathological cases lengthening is sometimes seen, but I do not think that such a considerable prolongation as in Dr. Jones's case has been seen before.

I am, Sir, yours faithfully,

L. S. FRIDERICIA, M.D.,
Professor of Hygiene at the University of Copenhagen.

Feb. 18th, 1921.

THE TREATMENT OF DIPHTHERIA CARRIERS.

To the Editor of THE LANCET.

SIR,—I regret the delay in replying to Dr. J. L. Brownlie's letter published in your issue of Dec. 11th, 1920, and referring to an article (THE LANCET, 1920, ii., 994) by Dr. A. R. Fraser and myself on the treatment of diphtheria carriers. As Dr. Fraser is in South Africa and I wished to have his views first, this delay was unavoidable.

We feel we have excellent reasons for preserving the distinction between "carriers" and "positive throats." The definition we gave of a "carrier" is a general one; examined critically it includes our "positive throats." Later we drew our rough line of distinction. In doing so we had no intention of taking a liberty. The term "carrier" and its meaning are now well known to many of the laity, and a "carrier" is regarded by not a few as one who ought to be kept segregated, like a leper. They may be right in some cases; they would be wrong in others, and in such cases great hardship results to the individual labelled a "carrier." We have personal knowledge of such sad cases. Further, not all the throats diagnosed in practice and in hospitals as positive are proved to have present virulent Klebs-Löffler bacilli. For these and other reasons we feel strongly that we must have absolute proof of the long persistence of virulent organisms before we apply the term "carrier" to an individual. For the many others who have presumably infective throats we had to find another term, and we choose to call such "positive throats."

We trust we have satisfied Dr. Brownlie as to our views and intentions without further discussing the matter in his letter. Our general aim is the same—to show, if possible, that the outlook for the "carrier" (even in the worst sense of the term) is by no means hopeless, as many appear to believe, especially American writers.

I am, Sir, yours faithfully,

A. G. B. DUNCAN,
Assistant M.O.H., Hull.

Feb. 21st, 1921.

[1] Acta Medica Scandinavica, vol. liii., 1920, p. 469.

QUININE TREATMENT OF MALARIA.

To the Editor of THE LANCET.

SIR,—Will you allow me to rectify an omission in my paper on the Treatment of Malaria by Quinine, which appeared in your issue of Feb. 12th? The last sentence—"This aspect of the question ....."—was borrowed without acknowledgment from a paper by Lieutenant-Colonel J. W. Cornwall, I.M.S., read before the Indian Science Congress of 1919, and is contained in the proceedings of that Congress published in a special number of the *Indian Journal of Medical Research*, p. 88. I much regret the omission.

I am, Sir, yours faithfully,

Westward Ho! Feb. 16th, 1921. P. HEHIR.

Medical News.

UNIVERSITY OF CAMBRIDGE: DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—The Special Board for Medicine, on the recommendation of the Committee on Medical Radiology and Electrology, has approved the grant of the Diploma in Medical Radiology and Electrology to Drs. J. E. A. Lynham, A. E. H. Pinch, W. J. Turrell, A. E. Barclay, and F. Hernaman-Johnson.

UNIVERSITY OF BRISTOL.—**At examinations held** recently the following candidates were successful:—

EXAMINATION FOR DEGREE OF M.D.

Adolph Reeve Heber.

FINAL EXAMINATION FOR DEGREES OF M.B., CH.B.

Part II. (completing examination).—William Harris Royal and Majorie Wadsworth (first-class honours).

Part I. only (including Forensic Medicine and Toxicology).—William Austin Jackman and Percy Phillips.

Part I. only.—Phyllis Beames, Macdonald Critchley, John Rukin Duerden, Winifred Grace Nott, John Augustin Prichard, William Kenneth Armstrong Richards, and Victoria Sophia Tryon

FINAL EXAMINATION FOR DIPLOMA IN DENTAL SURGERY.

Norman Henry Bodenham.

EXAMINATION FOR DIPLOMA IN PUBLIC HEALTH.

Part II. (completing examination).—Frederick Vaudrey Cant, Allan Dumbreck Fraser, and Geoffrey Commeline Williams.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—The Morison lectures will be delivered by Sir Frederick Mott, F.R.S., in the Hall of the College, 9, Queen-street, Edinburgh, at 5 P.M., on March 7th, 9th, and 11. The subject will be the Psychopathology of Puberty and Adolescence, and each lecture will be illustrated by drawings and lantern slide demonstrations.

LONDON HOSPITAL MEDICAL COLLEGE (*University of London*).—A course of 12 lecture-demonstrations on Gonorrhœa will be given by Mr. E. R. Townley Clarkson and Dr. A. Malcolm Simpson (chief assistant to the genito-urinary department of the hospital), on Tuesdays and Thursdays (men), and Wednesdays and Fridays (women), at 4.30 P.M. The course is intended for senior students of the hospital and for medical practitioners, who are invited to attend.

MEDICAL SOCIETY OF LONDON.—**A meeting will** be held at 11, Chandos-street, Cavendish-square, London, W., on Monday, Feb. 28th, at 8.30 P.M. A discussion on the Chemical Estimation of Gastric Function will be introduced by Dr. J. H. Ryffel and Dr. J. A. Ryle. Dr. T. I. Bennett, Dr. R. L. M. Wallis, Mr. E. C. Dodds, Dr. G. Graham, Dr. C. Bolton, Dr. R. Hutchinson, and Dr. W. H. Willcox will be among the speakers.

ROYAL INSTITUTION.—**On Saturday next,** March 5th, at 3 o'clock, Sir Ernest Rutherford will deliver the first of a course of three lectures at the Royal Institution on Electricity and Matter, and on Thursday, March 10th, Dr. G. C. Simpson, director of the Meteorological Office, commences a course of two lectures on the Meteorology of the Antarctic. The Friday evening discourse on March 11th will be delivered by Dr. J. Freeman on Medical Idiosyncrasies.

INDUSTRIAL WELFARE CONFERENCE.—**The** Industrial Welfare Society is arranging a conference to be held at the Mansion House on March 2nd. The Lord Mayor will preside, and the speakers will include the Duke of York, the Right Hon. E. Short, M.P., the Right Hon. H. A. L. Fisher, M.P., the Right Hon. J. R. Clynes, M.P., Alderman Sir Charles C. Wakefield, and Sir William H. Ellis, D.Sc.

Dr. O. K. Williamson, who was recently appointed to the Chair of Medicine at University College, Johannesburg, does not take up his new duties until February, 1922, and will not be leaving England before the end of the present year.

TUBERCULOSIS SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society will be held at the Margaret-street Hospital, London, W., on Monday, Feb. 28th, at 7.30 P.M., when Dr. W. Gordon will read a paper on Rain-bearing Winds and Tuberculosis.

THE RE-EDUCATION OF THE DISABLED.—**A lecture** on this subject will be given by Captain J. Manclark Hollis, secretary to the Village Centres Council, on Wednesday, March 2nd, at 8 P.M., at the house of the Royal Society of Arts, John-street, Adelphi, London, W.C.

THE **Royal Faculty of Physicians and Surgeons,** Glasgow, has recently sustained a loss in the death of its secretary and librarian, Mr. Alexander Duncan, B.A., LL.D., who died on Feb. 14th. Mr. Duncan, who had held his appointment for over 55 years, had an all-round knowledge of medical literature. He devoted much time to the preparation of a catalogue of the extensive medical library under his supervision and was the author of a serviceable history of the medical profession in the West of Scotland.

ROYAL STATISTICAL SOCIETY.—**The council will,** in November, 1921, award the Frances Wood Memorial Prize, value £30, for the best investigation of any problem dealing with the economic or social conditions of the wage-earning classes. The subject is to be chosen by the competitor and is to be treated on statistical lines. Essays must be sent, not later than July 1st next, to the Honorary Secretaries of the Royal Statistical Society, 9, Adelphi-terrace, London, W.C. 2, from whom further information may be obtained.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES. The second of a course of five lectures on Analytical Psychology will be given by Dr. Maurice Nicoll on Monday, Feb. 28th, at 5.15 P.M. A course of ten lectures on Elementary Psychotherapy will be given by Dr. H. Crichton Miller on Fridays, at 5.15 P.M., beginning May 6th. The fees for each course are: medical practitioners, £2 2s., medical students, £1 1s., and tickets should be taken in advance from the honorary lecture secretary at the clinic, 51, Tavistock-square, London, W.C. 1.

THE **Institut Français du Royaume Uni will be** opened at 1-7, Cromwell-gardens, S.W., on Saturday next, Feb. 26th, at 3 o'clock, under the presidency of the French Ambassador, the Comte de Saint Aulaire. The French Minister of Education, M. Léon Bérard, will represent his Government, and the English Board of Education and the London County Council will also be represented. Three delegates are expected from the Paris Municipal Council and from the University of Paris. Among the latter will be Mons. Appel, the Rector of the University, and Mons. Henri Bergson. The Rector of the University of Lille is also expected to be present, that University being the parent of the movement.

FEDERATION OF MEDICAL AND ALLIED SOCIETIES. A meeting of the Executive Council was held on Feb. 15th at 11, Chandos-street, London, W. Two letters from the Minister of Health were read stating his gratification at the work already accomplished by the Federation, and reaffirming his view that such a body should represent, not its own interests primarily, but the wider interests of the nation. The council then considered the new regulations drafted by the Secretary of State under Section 7 of the Dangerous Drugs Act, 1920. The Pharmaceutical Society of Great Britain pointed out that certain clauses of the Bill affecting its members were unworkable and that the time allowed for their consideration and the representation of views had been inadequate. Pending the receipt of the views of the constituent bodies in the Federation a letter had been sent by the council to the Under Secretary of State on Feb. 9th asking for an extension of the period provided for the representation of the views of interested bodies. The Under Secretary replied that he would gladly receive representations from the Federation, and hoped they would be made at an early date. A letter was also received on this matter from Captain W. E. Elliot, M.P., secretary of the Medical Committee of the House of Commons. The interests of the insured person in connexion with the new medical record cards were further considered. Dr. H. J. Cardale, representing the Association of Panel Committees in the Federation, showed the cards and fully explained the method of using them. The meeting was of opinion that the principle of keeping such records could not be condemned, and that six months' trial of the actual cards issued would demonstrate their value or their faults.

On the recommendation of the Minister of Health, the King has appointed Mrs. Ellen Frances Pinsent to be a Commissioner of the Board of Control to fill the vacancy caused by the retirement of Miss Mary Dendy.

LEAGUE OF RED CROSS SOCIETIES.—**The third** annual meeting of the board of governors will be held in Geneva on March 28th. The members of the board for this year are as follows: Mr. Henry P. Davison, American Red Cross, chairman; Hon. Sir Arthur Stanley, British Red Cross; Mons. de la Bouliniére, French Red Cross; Count Giuseppe Frascara, Senator, Italian Red Cross; Professor Arata Ninagawa, Japanese Red Cross; Count de Pena Ramiro, Spanish Red Cross; Dr. F. Block, Swedish Red Cross; Dr. M. Calmon du Pin e Almeida, Brazilian Red Cross; Colonel C. Bohny, Swiss Red Cross; Dr. E. Andreae, Argentine Red Cross; Dr. A. Depage, Senator, Belgian Red Cross; the Viscountess Novar, Australian Red Cross; Dr. F. Svendsen, Danish Red Cross; Dr. Yevrem Jouyovitch, Serbian Red Cross; Sir David Henderson, director-general, vice-chairman; Professor William E. Rappard, secretary-general. The General Medical Department of the League will be in charge of Professor C. E. A. Winslow, who has five months' leave of absence from Yale University. He is now in Geneva.

ROYAL FREE HOSPITAL: PROFESSORIAL UNIT.—Professor A. Louise McIlroy, whose appointment to direct the new obstetrical and gynæcological unit at the Royal Free Hospital, London, was announced in our last issue, was educated at the Universities of Glasgow, London, Berlin, Vienna, and Paris, and holds the diploma in midwifery of the Rotunda Hospital, Dublin. She has occupied appointments as assistant surgeon at the Glasgow Female Lock Hospital, district obstetric physician in charge of the West End Branch of the Glasgow Royal Maternity Hospital, assistant gynæcological surgeon at the Royal Samaritan Hospital, Glasgow, and senior assistant to the Muirhead Professor of Obstetrics and Gynæcology at the University of Glasgow. From 1915 to 1919 she was surgeon-in-charge of the Girton and Newnham unit of the Scottish Women's Hospitals for Foreign Service, which was stationed at Salonika and Belgrade. Since 1919 she has been gynæcological specialist in the 82nd General Hospital at Constantinople, in which she acted as surgical specialist during the absence of the senior surgeon. The unit of which Professor McIlroy will have charge contains 68 beds, of which 35 are in the Royal Free Hospital in Gray's Inn-road and 33 in the Marlborough Maternity Block, Endsleigh-street. All the wards are small, containing from two to ten beds. It is intended to receive not only patients who pay nothing for maintenance and treatment, but also patients who can pay up to £4 a week to cover the cost of maintenance. The professor will be assisted by first and second assistants, both of whom will be giving full time to the work of the unit. In addition there will be the registrar of the unit and three house physicians.

ABERDEEN ROYAL INFIRMARY AND LUNATIC ASYLUM.—The annual meeting of the corporation of the Royal Infirmary and Lunatic Asylum was held at the infirmary on Feb. 9th, Lord Provost Meff presiding. The chairman pointed out that annual donations had increased by £6200, but that costs were still exceptionally high. If the general public wished to keep the infirmary off the rates they must subscribe generously towards its maintenance. Mr. George Davidson, chairman of the infirmary board, submitted the infirmary annual report and moved its adoption. It was recorded that 55 per cent. of the in-patients came from the city and 45 per cent. from the county. He chronicled the equipment of a new pathological laboratory and the development of the scheme for the treatment of venereal disease, also the completion of the nurses' home at Albyn-terrace and the installation of electric light and central heating at the Cults Convalescent Hospital. An important discussion then took place on the question of demanding payment from patients treated at the infirmary in order to place the institution on a sound financial basis. A motion to submit to the directorate for their consideration the question of reserving a portion of the hospital for paying patients, or of requiring payment from all above a certain income, was withdrawn after some discussion. Mr. Andrew Davidson, chairman of the asylum board, submitted the annual report of the asylum. He explained that the deficit of £8000 on the year's working was caused by the fact that they had to fix their charges on the parish council and on private individuals a long time in advance, and the increases in cost had been out of all proportion to that anticipated. The directors had considered the question of establishing some sort of a clinic, apart from the asylum, where patients could be treated in the early stages of mental trouble. They were advised, however, that the fact of such a clinic being managed by the directors of the asylum would diminish its chances of success. It seemed to him, however, that there was an opening for some independent person to start a clinic of this kind.

INTER-DEPARTMENTAL COMMITTEE ON PATENTS.—This Committee has been established by the Privy Council, with the following terms of reference:—

(1) To consider the methods of dealing with inventions made by workers aided or maintained from public funds, whether such workers be engaged (*a*) as research workers, or (*b*) in some other technical capacity, so as to give a fair reward to the inventor and thus encourage further effort, to secure the utilisation in industry of suitable inventions, and to protect the national interest; and

(2) to outline a course of procedure in respect of inventions arising out of State aided or supported work, which shall further these aims and be suitable for adoption by all Government Departments concerned.

As at present constituted, the Committee consists of the following members:—

Mr. Kenneth Lee, LL.D. (Chairman); Mr. W. St. D. Jenkins, C.B.E., Admiralty Director of Contracts; Mr. F. E. Smith, O.B.E., F.R.S., Admiralty, Director of Scientific Research; Air Vice-Marshal Sir E. L. Ellington, K.C.B., C.M.G., C.B.E., Air Ministry, Director-General of Supply and Research; Mr. H. W. W. McAnally, C.B., Air Ministry, Assistant Secretary; Mr. P. W. L. Ashley, C.B., Board of Trade, Assistant Secretary, Industries and Manufactures Department; Colonel W. H. D. Clark, O.B.E., Board of Trade, Assistant Comptroller of the Patent Office; Sir H. Frank Heath K.C.B., Department of Scientific and Industrial Research, Secretary; Mr. A. J. Stubbs, M.Inst.C.E., M.I.E.E., General Post Office, Assistant Engineer-in-Chief; Mr. H. H. Dale, C.B.E., M.D., F.R.S., Medical Research Council, Head of Department of Biochemistry and Pharmacology; Mr. W. J. Coombes, Ministry of Munitions; Lieutenant-Colonel P. K. Lewes, C.M.G., D.S.O., R.A., War Office, Assistant Director of Artillery; Mr. P. Tindal Robertson, Barrister-at-Law, Royal Commission on Awards to Inventors, Secretary; Sir R. A. Gregory, F.R.A.S., Editor of *Nature;* Mr. D. M. Kerly, K.C.; Sir Charles A. Parsons, K.C.B., LL.D., D.Sc., F.R.S.

The Secretary to the Committee is Mr. A. Abbott, to whom all communications should be addressed at 16 and 18, Old Queen-street, Westminster, London, S.W.1.

UNION OF MEDICAL PRACTITIONERS: LEICESTER SUBDIVISION.—At the annual meeting held on Feb. 10th the following officers were elected for the ensuing year: Chairman, Dr. A. M. Crosfield; vice-chairman, Dr. G. H. Crofts; treasurer, Dr. Astley V. Clarke; honorary secretary, Dr. W. Moffat Holmes. The annual report states that the scheme of collective locum tenencies for the summer holidays, inaugurated during 1919, was successfully continued during last summer. Twenty doctors availed themselves of the facilities afforded by the scheme, and contributed £275 5*s.* to the pool. The expenses amounted to £4 2*s.* 8*d.*, being cost of books, posters, stationery, &c., leaving £271 2*s.* 4*d.* for distribution amongst the practitioners who attended patients under the scheme. The scheme for collective locum tenencies during sickness or short absences initiated in the early part of last year had been continued, and was now in operation. It had proved very useful in several cases. At the annual meeting of this subdivision held in February last year it was resolved "that use should be made of the Public Medical Service Rooms, East Bond-street, for the purpose of a club for the medical men of Leicester and Leicestershire." Effect was given to this resolution, and alterations were made and billiard, reading, and writing rooms provided. The committee had had under consideration the matter of school certificates, and had reaffirmed the resolution that school certificates for children attending elementary schools should not be provided by medical practitioners, except where paid for by the education authority. Representations had been made to the Ministry of Health Committee of the B.M.A. claiming that where the Ministry undertakes the partial support of existing hospitals or establishes fresh ones, men who have taken the trouble to obtain the higher degrees or diplomas, or who who have had considerable special experience during the war, should have an opportunity of being appointed to the staffs of these hospitals.

Leicester Public Medical Service.—A meeting was held on Feb. 10th, when the report of the board of management was read. The report recorded the numbers of subscribers to the various sections of the service: in the first half of 1920 these amounted in all to 39,883, and in the second half to 39,139. In addition over 12,0.0 State insured members of the friendly societies were paid for through the service. The rate per capita paid to "acting members" of the Service showed a substantial advance. The board had continued the arrangement whereby free medical treatment was provided for the uninsured blind of Leicester, under the care of the Institution for the Welfare of the Blind, the members of the Cripples' Guild, and the Wycliffe Society for helping the Blind. The Education Committee had continued the arrangement with the board for the school clinic work to be carried on at the Central Dispensary, and the following number of new cases, in addition to many others, received treatment during the year: vision, 778; nose, ear and throat, 848; teeth, 3529. The board had again entered into an arrangement with the Leicester Guardians for the dispensing of the necessary medicines for the outdoor sick poor. Arrangements had been made with the Ministry of Health for the use of a consulting-room at the Central Dispensary, for the examination by the regional medical officer of certain patients

insured under the National Insurance Act. A proposal that it might be advantageous to members of the service if arrangements were made for them to obtain drugs, &c., through the Public Medical Service had been carefully considered by the Finance and General Purposes Committee, who recommended that the proposal be adopted. Several members had availed themselves of the arrangement, the accounts up to the end of the year amounting to £46 11*s.* 4*d.* In connexion with the agreement between the Public Medical Service and the Foresters and Oddfellows Medical Associations the board directed the special attention of "acting members" to the following clause respecting voluntary subscribers, with particular reference to the exception in cases of emergency:—

"They do not bind themselves to make visits between 8 P.M. and 9 A.M. in response to calls received within these hours, nor to make special visits in the day-time unless notice has been given before half-past nine o'clock in the morning. For visits made at the member's request under any of the conditions specified a charge of 3*s.* 6*d.* will be made, *except in cases of emergency.*"

CENTRAL COUNCIL FOR DISTRICT NURSING IN LONDON.—The annual meeting of the council will be held at the offices of the Metropolitan Asylums Board, Embankment, London, E.C., at 2.30 P.M., on Monday, Feb. 28th, when the provision of home nursing for persons of limited means will come up for consideration.

LONDON SCHOOL OF TROPICAL MEDICINE: RESEARCH EXPEDITION TO BRITISH GUIANA.—Some time ago the Colonial Office was requested by the Government of British Guiana to investigate the subject of filariasis, a disease affecting at least 50 per cent. of the population of that country. The matter was referred to the London School of Tropical Medicine, which unfortunately could not at that time spare funds for the purpose, in view of the special expedition to the Pacific Islands to test the claims of salvarsan compounds in their action on filarial disease. The Pacific Expedition having returned, and a second request having been received from the Colonial Office to look into the importance of endemic filariasis in British Guiana, alleged by Dr. F. G. Rose to be very urgent, an expedition was organised and financed by the School under the able leadership of Professor R. T. Leiper, who will be supported by a strong body of assistants, with Dr. G. M. Vevers as chief of the helminthological department and Dr. John Anderson to conduct researches upon the therapeutic and pathological aspects of the disease. The whole subject of filariasis will be investigated on the spot, especially with a view to devising measures for prevention and effective treatment of the developed disease. The lines to be followed will be those already found so successful in bilharziasis, different metals being tested as to their therapeutic value in filariasis. The expedition, we learn, starts this week.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the Committee held on Feb. 8th 17 cases were considered and £245 voted to 15. The following is a summary of some of the cases relieved:—

M.R.C.S.E., aged 80. Married, practised in London. Suffers from facial neuritis following paralysis. Dependent on daughter, who supplements her income by taking paying guests. Applicant receives the old-age pension. Voted £15.—M.B., C.M. Edin., aged 67, married. Was a temporary assistant medical officer at a mental hospital. Asks for help to meet expenses. Step-daughter, aged 45, dependent owing to being deaf since birth. A married daughter, a war widow, gives help occasionally. Wife takes boarders to supplement income. Has had to sell furniture to make ends meet, and within the last 12 months has paid off £100 for debts. Rent and rates, £69 per annum, amount owing £36. Voted £26 in 12 instalments.—Daughter, aged 48, of M.R.C.S. Eng. who was a surgeon-major in India and died in 1881. Applicant suffers from bad health owing to munition work during the war. She lives with her sister, and they both receive a pension from the India Office of £56 and a present from friends of £12. Their furnished cottage costs 12*s.* 6*d.* per week. Voted £10 in two instalments and a special grant of £10.—Widow, aged 36, of M.R.C.S. Eng. who practised at Bocking and died in 1919. Applicant having two delicate young children, took a house as a nursing home for child patients, but receipts do not cover expenses, and she has had to draw on her capital, the money realised by sale of late husband's practice. Her husband had five older children by his first marriage. Owns house, but it is mortgaged. Voted £20.—Daughter, aged 70, of M.R.C.S. who practised in Wiltshire and died in 1878. Applicant used to receive £100 per annum from friends, but this sum is no longer available, and her niece who looked after her has now to help her own aged mother. Old-age pension is being applied for. Voted £26 in four instalments.—Widow, aged 44, of M.B., C.M. Glasg. who practised at Hartley and died in 1909. Applicant left with three children. She acts as a companion-help at £60 per annum. Her eldest son is self-supporting, but she has to pay part of board for second boy, aged 17, who is apprenticed to the engineering; wages 19*s.* per week. Asks for help to meet expenses. Voted £20 in four instalments.—Daughter, aged 47, of M.R.C.S. Eng. who practised at Lincoln and died in 1908. Owing to ill-health she is entirely dependent on her mother, who receives a pension from the Fund. Relieved once, January, 1920, £12 in 12 instalments. Voted £12 in 12 instalments.—Widow, aged 54, of L.S.A. Lond. who practised at Cambridge Heath and died in 1911. Applicant has a cottage in Cornwall and earns money by taking boarders and tea-gardens, but owing to bad weather has been unable to meet expenses. Applicant has to find £2 per week for eldest son, who holds a scholarship of £30 at a mining school, and her younger son is an apprentice at 3*s.* 6*d.* per week. Rent and rates £12 per annum, and assurance for self and two sons £18 per annum. Relieved four times, £35; last time January, 1919, £10. Voted £10.

Subscriptions may be sent to the honorary treasurer, Sir Charters J. Symonds, C.B., F.R.C.S., at 11, Chandos-street, Cavendish-square, London, W. 1.

PSYCHOLOGICAL MEDICINE.—**The third course of** lectures and practical instruction for a diploma of psychological medicine will begin at the Maudsley Hospital on April 5th, when Sir Frederick Mott, F.R.S., will give the first of eight lectures on the Anatomy of the Nervous System. These lectures will be held on Tuesdays, at 2.30 P.M. Dr. F. Golla will give eight lectures on the Physiology of the Nervous System on Fridays, at 2.30 P.M., commencing on April 8th; and on Thursdays, at 2.30 P.M., Dr. Henry Devine will give eight lectures on Psychology, beginning on April 7th. Practical instruction and demonstrations will be given in connexion with these three courses of lectures. The second part of the course for the diploma will be held in October and details will be announced later. The fee for the whole course is £15 15*s.*, for either part separately £10 10*s.* The fee for a single series of lectures in Part I. is £4 4*s.* Inquiries should be addressed to the Director of the Pathological Laboratory, Maudsley Hospital, Denmark Hill, London, S.E.

Communications, Letters, &c., to the Editor have been received from—

A.—Dr. A. Abrahams, Lond.; Mr. E. A. Armstrong, Lond.; Association of British Chemical Manufacturers, Lond.; Sir Clifford Allbutt, Cambridge; Dr. K. Adams, Glasgow; Mr. R. J. Albery, Lond.; Agriculture, Dept. of, Ottawa.

B.—Mrs. C. Brereton, Lond.; Prof. C. W. G. Bryan, Lond.; Mr. H. Barwell, Lond.; Dr. J. Blomfield, Lond.; Mr. J. O. Braithwaite, Lond.; Messrs. J. Bell and Croyden, Lond., Managing Director of; Board of Trade, Lond.; Dr. H. H. Bashford, Lond.; Dr. Buchanan, Glasgow; Dr. C. Bolduan, Washington; Board of Control, Lond., Sec. of; Dr. J. Brown, Lond.; Dr. A. H. Burgess, Manchester; Dr. A. E. Barclay, Manchester; British Thomson-Houston Co., Lond.; Sir G. T. Beatson, Glasgow; Mrs. E. Bartrip, Harrow-on-the-Hill.

C.—Mr. J. M. Campbell, Glasgow; Dr. H. P. Cholmeley, Forest Row; City of London and East London Dispensary, Sec. of; Dr. J. B. Christopherson, Lond.; Clerical, Medical, and General Life Insurance Society, Lond.; Dr. R. Cannon, Miramar, Chili; Dr. C. Coombs, Bristol; Prof. E. L. Collis, Cardiff; Col. R. B. Campbell, Aldershot; Messrs. Cassell and Co., Lond.

D.—Mr. H. A. Dupré, Ottawa; Mr. H. Dickinson, Lond.; Dr. A. G. B. Duncan, Hull.

F.—Dr. L. S. Fridericia, Copenhagen; Dr. E. R. Fothergill, Hove; Faculté de Médecine de Paris.

G.—Dr. W. E. Gye, Lond.

H.—Mr. F. A. Hocking, Lond.; Dr. C. T. W. Hirsch, Lond.; Dr. A. K. Henry, Dublin; Prof. I. Holmgren, Stockholm; Dr. S. Herbert, Manchester; Maj.-Gen. Sir P. Hehir, I.M.S. (retd.), Westward Ho!; Dr. F. S. D. Hogg, Rickmansworth; Prof. W. Hall, Bristol; Mr. N. A. Humphreys, East Liss; Prof. F. G. Hopkins, Cambridge; Mr. J. R. Hill, Edinburgh; Harrogate Corporation Baths, General Manager of.

I.—Dr. J. M. Irwin, Bracknell; Insurance Committee for the County of London.

J.—*Journal of Industrial Welfare*, Lond.; Johns Hopkins Press, Baltimore.

K.—Dr. W. N. W. Kennedy, Croydon.

L.—London Hospital Medical College; London Hospital Medical Society, Hon. Sec. of; Lord Mayor of London; Miss A. Lester-Garland, Lond.

M.—Dr. P. H. Manson-Bahr, Lond.; Dr. T. H. Morse, Deal; Dr. W. St. C. McClure, Manchester; Ministry of Health, Lond.; Metropolitan Asylums Board, Lond.; Dr. M. Manson, Hensingham; Medical Society of London; Sir F. Mott, Lond.; Lt.-Col. R. McCarrison, Oxford; Dr. J. Mennell, Lond.

N.—National Council for Combating Venereal Diseases, Lond.; National Drug and Chemical Union, Lond., Gen. Sec. of.

O.—Messrs. Oliver and Boyd, Edinburgh; Officers' Families Fund, Lond.

P.—Panel Committee for the County of London; Dr. R. Picken, Glasgow; Mr. V. G. Plarr, Lond.; Dr. K. B. Pinson, Manchester; Dr. W. A. Potts, Edgbaston; Dr. J. T. Peters, The Hague; Prof. H. Platt, Manchester; Miss M. Price, Vienna; Dr. R. H. A. Plimmer, Aberdeen.

R.—Dr. R. J. Rowlette, Dublin; Mr. H. Rundle, Southsea; Royal Society, Lond., Asst. Sec. of; Prof. A. J. H. Russell, Madras; Dr. H. Roberts, Lond.; Royal Institution of Great Britain, Lond.; Royal Statistical Society, Lond.; Royal College of Physicians, Edinburgh, President and Fellows of; Royal Society of Arts, Lond.

S.—Société des Médecins Chefs de Laboratoire de Radiologie et d'Electro-Radiothérapie, Paris; Major M. Sinclair, R.A.M.C., Netley; St. Mary's Hospitals, Manchester, Sec. of; Dr. S. W. Swindells, Great Grimsby; Miss W. Stephens, Lond.

T.—Dr. J. Tatham, Oxted; Tuberculosis Society of Great Britain and Ireland, Lond., Hon. Sec. of.

U.—University of London, Principal Officer of.

W.—Messrs. Willows, Francis, Butler, and Thompson, Lond.; Dr. O. Wilberforce, Lond.; Workers' Educational Union, Lond.; West London Post-Graduate College; Dr. K. M. Walker, Lond.; Dr. O. K. Williamson, Lond.; Mr. A. R. Walker, Lond.; Dr. E. Ward, Paignton; Dr. J. W. T. Walker, Lond.; Dr. J. Watt, Sutton.

Communications relating to the editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, London, W.C. 2.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Medical Record Cards.

A MEETING of the Medical Committee of the House of Commons was held on Monday, Feb. 21st, at Westminster, to consider the question of the new medical record cards issued by the Ministry of Health to panel practitioners. Lieutenant-Colonel NATHAN RAW presided. The meeting passed two resolutions, one to the effect that the principle of keeping a record was likely to result in permanent advantage to the insured person; and the second stating that the most jealous regard should be maintained for professional secrecy, which ought not to be infringed. It was decided that a question should be addressed to Dr. ADDISON, the Minister of Health, on the point whether the records could be called for in a court of law.

HOUSE OF LORDS.

THURSDAY, FEB. 17TH.

Chinese Flour and Dermatitis.

REPLYING to Lord HARRIS, the Earl of CRAWFORD (Chancellor of the Duchy of Lancaster) said that it had been very widely alleged that the Chinese flour which the Government had purchased was poisonous. It was suggested that it produced dermatitis, and it was even suggested that it was the cause of sleeping sickness—a complaint which originated, he believed, in about the only portion of this hemisphere to which Chinese breadstuffs had never penetrated. They might as well say that Chinese flour was answerable for housemaid's knee or any other conceivable ailment. The total quantity of Chinese flour that they had bought was less than 2 per cent. of our consumption. This flour was being consumed all over Europe. Analyses of it had been made for the Flour Mills Control Committee by public analysts by authoritative persons, and in every case the certificate of origin guaranteeing that the flour was made of pure wheat had been confirmed. The Ministry of Health, seeing these reports about sleeping sickness and dermatitis and so on, naturally interested themselves in the subject. A number of samples of the flour were taken and subjected to the most minute microscopic and chemical tests. The Ministry reported that the flour was good, perfectly free from all mineral impurities, and it was wholesome, sound, sweet, and normal. It had also been alleged that in the neighbourhood of Finsbury Park, London, a large number of people were suffering from dermatitis, brought about by the consumption of Chinese flour in the form of bread. The allegation was made by a medical man whose name was given, that 200, or it might have been more, of his patients were suffering from dermatitis from this cause. The Ministry of Health selected a dermatologist of distinction, who, he presumed, understood dermatitis, and who went down to the neighbourhood of Finsbury Park and saw the patients of this doctor. The dermatologist had reported that the cases examined were suffering from scabies, commonly known as the itch, a parasitic disease which could not be associated with the ingestion of any article of food. He (Lord Crawford) presumed that while these wretched patients had been suffering from this nasty complaint they had been continuing to receive treatment for some digestive trouble. The public ought not to be misled by sensational reports of this character. The real fact was that at the present moment Great Britain had got the best bread in Europe, and if his information was correct the cheapest bread in Europe as well.

HOUSE OF COMMONS.

THURSDAY, FEB. 17TH.

Pension Award Statistics.

Mr. RENDALL asked the Minister of Pensions whether he had published or would publish statistics tabulating pension cases and showing the numbers of pensions increased and decreased per annum and the reasons for the alterations made, the number of cases in which medical boards were overruled by the awards branch, the number of pensions stopped, and the number of claims unsuccessfully made for pensions.—Mr. MACPHERSON replied: During the six months ending Jan. 31st, 1921, 525,000 men were re-examined by medical boards for renewal or termination of pension, with the following results: Pensions increased, 42,600; pensions unaltered, 249,650; pensions reduced, 193,850; pensions terminated but gratuities awarded, 26,000; no further award, 13,900. During the same period 84,000 first claims were considered, and in 60,000 of these cases pension or gratuity was awarded. In reply to the second part of the question I stated that the percentage degree of disablement, on which the amount of pension is based, is in all cases determined by medical boards, whose opinion cannot be overruled by any official of this Ministry.

Pension Scale for Limb Injuries.

Mr. RENDALL asked the Minister of Pensions whether he was aware that the pension scale for limb injuries, which gave a stated sum as compensation for the limb lost, ignored the pensioner's general health, which might be shattered or gravely injured by the injuries that caused the loss of the limb; and what course he had taken or proposed to take to deal with this problem.—Mr. MACPHERSON replied: The scale contained in the First Schedule of the Royal Warrant is designed to compensate merely for the specific injuries there stated. In the actual award of pension, however, due allowance is made for any concomitant loss of health, the amount of pension being based on the total extent of disablement due to, or aggravated by, service.

Regulations under Dangerous Drugs Act.

Mr. JOSEPH JOHNSTONE asked the Secretary for the Home Department whether he was aware that the Draft Regulations under the Dangerous Drugs Act, 1920, were causing dissatisfaction and alarm to registered pharmacists and dispensing chemists; whether the Pharmaceutical Society of Great Britain had protested against the Regulations being further proceeded with until the whole situation had been considered by the Government Department in consultation with the Pharmaceutical Society; whether these Draft Regulations superseded the Pharmacy Acts, interfered with the reasonable liberties of the people, and involved details leading to unjustifiable expenditure; and whether he would consider the advisability of suspending the Regulations meanwhile with a view to their amendment and adjustment.—Mr. TREVELYAN THOMSON asked the Home Secretary if he could see his way to withdraw the Draft Regulations issued under Section 3 of the Dangerous Drugs Act, 1920, which were considered unworkable in their present form by those who would have to carry them out; and would he consult the representatives of the pharmaceutical societies in the redrafting of these Regulations so that the objects of the Act might be achieved with the minimum instead of the maximum of inconvenience to the public.—Lieutenant-Colonel WALTER GUINNESS asked the Home Secretary whether the new Regulations would be withdrawn and redrafted in view of the overwhelming opinion among medical practitioners that in their present form they were unnecessarily irksome, totally impracticable, and likely only to encourage the desire for dangerous drugs by notifying patients by means of a label whenever medicines contained morphine and other narcotics.—Mr. CLOUGH asked the Home Secretary whether he had received protests from the medical profession against the new Regulations on the ground that they would not only be useless and expensive but a source of danger; and whether he would again investigate the whole matter before enforcing these Regulations.—Sir HARRY HOPE asked the Home Secretary whether, in view of the strong feeling against the Dangerous Drugs Act, he would open an inquiry with the object of removing some of the hardships which the Act would entail.—Major Sir BERTRAM FALLE asked the Home Secretary if his attention had been called to the widepread objection to the new Regulations, and if he could make any statement.—Sir THOMAS BRAMSDON asked the Home Secretary if in formulating the Draft Regulations for the scale, prescribing, dispensing, and distribution of cocaine, ecgonine, morphine, heroin, and opium (medicinal), the British Medical Association, which represented and spoke for over 22,000 medical men, were not consulted; if he was aware that the proposed Draft Regulations were regarded by medical practitioners throughout the kingdom as impracticable; that if Clause 13 of the proposed Regulations be strictly carried out it would be impossible for medical men to obtain those drugs from wholesale chemists by train or through the post; and that, however urgently needed, it would be impossible for a doctor to obtain these drugs by a telephone message; and if he was prepared to submit the Regulations for consideration and amendment to a committee composed of representatives of the Home Office, the Ministry of Health, the British Medical Association, and the Pharmaceutical Society as well as the Veterinary Surgeons, as representing all the interests concerned in dealing with these drugs.—Lieutenant-Colonel Sir JOHN HOPE asked the Minister of Health whether the Regulations under the Dangerous Drugs Act, 1920, would prevent farmers and other horse-owners keeping colic draughts containing opium, the administering of which in cases of emergency often saved the lives of animals, especially where it was impossible to get veterinary aid quickly.—Lieutenant-Colonel HURST asked the Minister of Health whether he consulted the British Medical Association or the Pharmaceutical Society before issuing Draft Regulations on Jan. 7th last under the Dangerous Drugs Act; whether he was aware that transactions in morphia,

cocaine, heroin, opium, and ecgonine represented roughly half the dispensing practice of a doctor, and that the records of such transactions required by the Regulations must be a burden upon all doctors in dispensing practice; and whether he would now reconsider this question having regard to professional opinion.

Sir JOHN BAIRD (Under Secretary for the Home Department) replied: With the permission of the House I will make a statement covering all these questions. In the first place I desire to make it clear that the Regulations are at present in draft only, and will not come into operation until they have been formally made. They are issued first in draft for the express purpose of giving all parties interested the opportunity of expressing their views before they are finally made. The criticisms that have been directed against the Department for not having consulted this body or that before issuing the Regulations are, I think, therefore a little misplaced. Representations have been received from a number of bodies, and these are being carefully considered. Many of the objections are based on a misapprehension of the meaning of the Regulations, as, for instance, the objection to Regulation 13 referred to by Sir T. Bramsdon; and where necessary the wording of the Regulations will be amended so as to make the meaning perfectly clear. Apart from these a number of important points have been raised, and these are being, or will be, discussed with the representatives of the interests concerned. As regards the application of the Regulations to agriculture, my right honourable friend is in consultation with the Ministry of Agriculture. I may remind the House that the Regulations are proposed in order to carry out the obligations which the Government have undertaken by the International Opium Convention and the Treaty of Versailles to confine the use of the drugs in question to medical and other legitimate uses. Parliament gave express powers for the purpose in the Dangerous Drugs Act of last session. I imagine that the need for additional restrictions in view of the prevalence of the drug habit will be generally admitted. At the same time, it is not my right honourable friend's desire or intention to impose any restrictions beyond what are absolutely necessary to effect the purpose, and he hopes he may be able to meet, to a very large extent, the views which have been submitted to him. When the Regulations are finally made they will be laid before Parliament, and Parliament will have an opportunity of discussing them if it so desires.

Colonel GREIG: Is it not a fact that these Draft Regulations have been published in accordance with an Act of Parliament which has been on the Statute Book for the last 20 years—the Rules Publication Act—in order that anyone may object or comment as he thinks fit?—Mr. THOMSON: Are we to understand that the Home Secretary will receive a deputation from these various societies, and discuss with them the points that have been raised?—Sir J. BAIRD: The Home Secretary has already agreed to receive a deputation.—Mr. RAFFAN: Will the Rules become operative before the discussion which has been promised takes place in this House, or will the Minister be guided by the views of Members of this House before the Regulations assume their final form?—Sir J. BAIRD: The position is that the Rules have to lie on the Table of the House for 21 days, and during that period a Member of this or the other House can move an Address to the King objecting to them. It does not lie with the Government or the Minister to find time.—Mr. RAFFAN: They do not become operative for 21 days?—Sir J. BAIRD: No.—Sir D. MACLEAN: When does the honourable baronet think that these Regulations will be laid? Will it be in the course of the next month?—Sir J. BAIRD: Yes, I think certainly in the course of the next month. The matter is rather urgent, because in the event of the Treaty with Turkey being ratified the Regulations under which we can now exercise restrictions on opium and cocaine will lapse, and unless there is something to put in their place a deplorable state of affairs will be created. I am afraid I cannot give an absolute date when these Regulations will be laid or when the discussion with bodies affected will take place.—Sir J. D. REES: Is the honourable baronet aware that these Draft Regulations are viewed with consternation by the people concerned? Is it really contemplated that the few supermen of the League of Nations are to worry every underdog about every matter like this? Will my honourable friend represent to the Home Secretary the intense unpopularity of these Regulations, which are utterly unjustifiable?—Sir J. BAIRD: I think my right honourable friend is aware that a certain amount of unpopularity has been aroused by them. He is doing his best to meet the objections so far as he legitimately can, having regard to our international obligations.—Mr. ACLAND: Is it not a fact that the International Opium Agreement was come to before the League of Nations was born or thought of?—Sir J. BAIRD: That is perfectly true.—Sir H. CRAIK: Is the honourable baronet aware that the opportunities of discussing an Order laid on the Table of the House are absolutely illusory unless the Government give time for it?—Sir J. BAIRD: I will not presume to argue a matter of that sort with the right honourable gentleman who has had much more experience than I have, but I believe he is in error. The Government has nothing to do with it; the House has the right to discuss the matter on any day.

Health Insurance Arrears.

Mr. WILLIAM THORNE asked the Minister of Labour if he was aware that many workpeople were falling into arrears with their health insurance contributions in consequence of widespread unemployment; whether he could arrange for the labour exchange officials to be empowered to place stamps upon the cards; or whether the arrears could be remitted altogether during the present period of distress.—Dr. MACNAMARA replied: The out-of-work donation scheme provides for the payment by the Ministry of Labour of the health insurance contributions of persons receiving donation whilst unemployed. There is no corresponding provision in the Unemployment Insurance Act, 1920, and to pay the health contributions of persons receiving unemployment benefit would require statutory authority. The question whether arrears of health contributions could be remitted entirely during the present industrial depression is one which should be addressed to the Minister of Health.

Milk and Dairies Bill.

Mr. SWAN asked the Minister of Health if he would state when it was proposed to proceed with the Milk and Dairies Bill.—Dr. ADDISON replied: It is not at present proposed to reintroduce the Milk and Dairies Bill during the present session.

FRIDAY, FEB. 18TH.

Dogs Protection Bill.

Sir F. BANBURY introduced a Bill "to prohibit the vivisection of dogs," which was supported by Sir JOHN BUTCHER, Colonel BURN, and Mr. JOSEPH GREEN. The Bill was read a first time and the second reading is down for Tuesday, April 12th.

MONDAY, FEB. 21ST.

Medical Record Cards.

Sir J. D. REES asked the Minister of Health whether the new record cards had been dropped in view of the almost universal objection entertained to this development of social reform.—Dr. ADDISON replied: No, Sir. I am unaware of any grounds for the statement in the honourable Member's question that there is almost universal objection to the insurance medical record cards. From about 10,000 Approved Societies and branches I have five protests only; out of 150 Panel Committees (representing insurance practitioners), five representations mainly on points of detail; while from the Insurance Committees (which administer medical benefit in every county and county borough) I have received no protest whatever. On the contrary, one large Insurance Committee which had before it a resolution disapproving of the new medical cards, rejected the resolution by 21 votes to 2. In these circumstances, I fear that the honourable Member has been gravely misinformed.

Captain Sir DOUGLAS HALL asked the Minister of Health if he would state what was the estimated cost per annum of the new medical records for insurance patients; and whether it approximated to the statement made by the local Medical and Panel Committee of the county palatine of Chester that, according to its information, the cost of the initial issue would run the London Hospital a year.—Dr. ADDISON replied: The annual cost of the records will be a small sum and certainly considerably less than that of the old medical record cards and doctors' register cards, both of which will be replaced by the single new permanent record card. With regard to the last statement in the question, the cost of running the London Hospital in 1919 was £221,000, whilst the total initial cost to Insurance Committees, a charge which will not recur, for filling in and sending the record cards to all the practitioners in England and Wales was estimated to cost £19,000.—Sir DOUGLAS HALL also asked the Minister of Health whether already, under the new system of medical records of insured patients, there had been cases of patients foregoing their benefits and incurring the expense of a private doctor rather than submit to a record of their complaints being made by the panel doctor on the record cards?—Dr. ADDISON replied: I understand that allegations to the effect stated in the question have been made in some two or three cases only out of the millions of insured persons. I may add that the fact that medical men, Approved Societies, and Insurance Committees, as well as insured persons having first-hand knowledge of these matters, have remained quite unmoved by the recent agitation is convincing proof of its unreal character.

Maintenance of Patients in Mental Hospitals.

Mr. FINNEY asked the Minister of Health whether his attention had been drawn to a resolution of a meeting of Poor-law guardians of the Wolstanton and Burslem union, Staffordshire, calling attention to the increasing charges on

the rates and with special reference to the recent increase for the charge in the maintenance of patients in the mental hospital from 28*s*. to 35*s*. per week, and to the fact that the Exchequer contributions, as fixed under the Local Government Act, 1888, remained the same, and the grant, notwithstanding the enhanced cost of maintenance, for patients in mental hospitals still remained at 4*s*. per week per patient, which grant of 4*s*. was fixed originally when the average cost of maintenance would be from 8*s*. to 9*s*. whereas it was now four times the amount, and in addition the establishment and other charges included in the precepts received by guardians from county councils increased considerably the amount of 35*s*. weekly, and protesting most strongly against these increasing burdens without some adequate or comparative increase in the amount of the grants allowed, and pressing that some definite action be taken by the Government to make some recompense and appease the indignation caused by such increasing charges on the rates; and whether he could indicate the intentions of the Government respecting the same.—Dr. ADDISON replied: I have received a copy of this resolution. As I stated in reply to numerous questions asked last session on this subject, it would not be practicable, in view of the contemplated reform of the Poor-law, to deal with this particular matter at the present time.

The Dentists Bill.

Mr. WATERSON asked the Minister of Health if he could state if it was the intention of the Government to proceed with the Dentists Bill.—Dr. ADDISON replied: I hope to be able to give a definite answer to this question this day fortnight.

Import of Salicylic Acid.

Major BARNES asked the President of the Board of Trade if an import licence for two hundredweights of salicylic acid (B.P.) required for the purpose of making medicated ointment had been refused; and if he would say in the manufacture of what dyestuffs, colours, or colouring matters salicylic acid (B.P.) was used.—Sir PHILIP LLOYD-GREAME replied: I understand from the Dyestuffs Advisory Licensing Committee that the applicants in the case referred to are being informed that, if they can satisfy the Committee that the consignment is of B.P. quality and is to be used solely for medicinal purposes, and will undertake to produce proof, if required later, that it has been so used, the Committee will be prepared to reconsider their decision.

Testing Thermometers.

Sir HERBERT NIELD asked the Parliamentary Secretary to the Ministry of Munitions whether the control and testing of thermometers formerly performed at the National Physical Laboratory and taken over by the Ministry during the war was still retained by the Ministry; if so, how many persons were engaged upon such work and at what cost; whether the work constituted a separate department and how long it was proposed to continue it; and what reason could be assigned by him for not re-transferring the work to the National Physical Laboratory.—Sir PHILIP LLOYD-GREAME (Parliamentary Secretary to the Board of Trade) replied: With regard to the first part of the question, the testing of thermometers of all kinds has always been undertaken by the National Physical Laboratory since before the war on payment of a fee. The Ministry of Munitions issued an Order in October, 1918, for the administration of which the Board of Trade is now responsible, making the testing of clinical thermometers compulsory. This testing, as required by the Order, is performed by the National Physical Laboratory. The remainder of the question, therefore, does not arise.

Scottish Doctors and Telephone Charges.

Mr. ALEXANDER SHAW asked the Postmaster-General whether he was aware of the hardship to medical men in various localities in Scotland who were being called upon to pay twice the previous cost or more for telephone service and were unable to bear this addition to the costs of carrying on their practice; and whether he was prepared to take any action in the matter.—Mr. ILLINGWORTH replied: I regret that a preferential tariff for the medical profession at the expense of other classes of subscribers cannot be justified, but as medical men usually originate comparatively few calls it is unlikely that the new rates will, save in exceptional cases, add as much as 100 per cent. to the cost of the service.

WEDNESDAY, FEB. 23RD.

Professional Secrecy.

Lieutenant-Colonel FREMANTLE asked the Minister of Health whether, prior to directing medical practitioners under the National Health Insurance Act to place certain confidential entries on medical history cards, he had consulted, or would consult, the law officers of the Crown as to whether the practitioners would be guilty of violation of secrecy and be liable to actions for libel if such entries were entrusted by them to private secretaries, in accordance with their usual practice.—Dr. ADDISON replied: I am advised that in the circumstances mentioned it is in the highest degree unlikely that there would be any cause of action against the doctor, unless he were shown to have been actuated by malice. The general question as to the position in the law of medical secrecy was submitted by me to the Lord Chancellor in June last year, and the matter which raises very important issues is being considered.

Colonel FREMANTLE asked the Minister of Health if he had obtained or would obtain the opinion of the Law Officers of the Crown as to whether subpœnas may be granted compelling the production of medical history cards in legal proceedings; and whether panel practitioners concerned in their preparation may be called upon to support the statements therein made.—Dr. ADDISON replied: I am advised that though a person may be compelled by means of a Subpœna Duces Tecum to bring any document, private or otherwise, to the court, the document itself does not thereby become admissible in evidence. A record card is, I am advised, not evidence of the facts stated in it, and, if it is desired to prove them, this must be done in the ordinary way—viz., by the oral evidence of the doctor himself.

Appointments.

Certifying Surgeons under the Factory and Workshops Acts: MCDOUGALL, D., M.B., Ch.B. Glasg. (Kilbride); ROBERTSON, I. M., M.B., Ch.B. Glasg. (Strichen).

Vacancies.

For further information refer to the advertisement columns.

Beckenham Education Committee—Dental O. £500.
Belgrave Hospital for Children, Clapham-road, S.W.—H.P. and H.S. £100.
Birmingham General Hospital.—Res. Anæsth., H.S., Obstet. H.S. £100. Also H.S. to Skin and Venereal Depts. £125.
Bootle County Borough.—Tuberc. O. and Deputy M.O.H. £750.
Bradford Royal Infirmary.—Two H.S.'s. £200. Also H.P. £200.
Bristol City and County.—Asst. Tuberc. O. £603 12*s*. 5*d*.
Bristol, Cossham Memorial Hospital, Kingsland.—H.S. £200.
Bristol General Hospital.—H.P.'s, H.S.'s, Cas. H.S. and Obstet. O. £175.
Bristol Royal Hospital for Sick Children and Women.—H.S. and H.P. £150 each.
Cairo, Egyptian Government School of Medicine.—Two Professorships of Ophthalmology. British, L.E.600. Egyptian, L.E.500.
Cardiff, King Edward VII. Hospital.—H.S. £200.
City of London Union, 2a, Bow-road, E.—M.O. £900.
Derby, Derbyshire Royal Infirmary.—Ophth. H.S. £200.
Dewsbury and District General Infirmary.—H.S. £250.
Dorchester, Dorset Mental Hospital, Herrison.—Second Asst. M.O. £400.
Ealing Borough.—Asst. M.O.H. £500.
Eastern Dispensary, Leman-street, E.—P. and Ophthal. S.
East Sussex County Council, Darrell Bank Sanatorium.—Med Supt. £750.
Evelina Hospital for Children, Southwark, S.E.—H.P. £160.
Exeter City.—Asst. M.O.H. and Asst. Sch. M.O. £500.
Exeter, Royal Devon and Exeter Hospital.—H.P. £150.
Greenwich, "Dreadnought" Hospital.—H.S. £150.
Herefordshire General Hospital.—H.S. £200.
Hull Royal Infirmary.—Asst. H.S. £150.
Kent County Mental Hospital, Chartham, near Canterbury.—Jun. Asst. (Third) M.O. £350.
Leeds Public Dispensary.—Hon. Radiologist.
Liverpool, David Lewis Northern Hospital.—Two H.P.'s. Three H.S.'s. £120.
Liverpool Maternity Hospital and Ladies' Charity.—Hon. S.
Liverpool Royal Children's Hospital, Myrtle-street.—Two Res. H.P.'s and Two Res. H.S.'s. £90. Hon. S. and Hon. Asst. P.
Liverpool Royal Infirmary.—Hon. S.
Liverpool, Royal Southern Hospital.—Two H.P.'s and Three H.S.'s. £100.
London County Mental Hospitals.—Clin. Assts. £200.
London Homœopathic Hospital, Great Ormond-street and Queen's-square, Bloomsbury, W.C.—Asst. S.
Manchester, Ancoats Hospital.—Hon. S.
Manchester Babies' Hospital, Slade Lane, Manchester.—Res. M.O. £150.
Manchester Royal Infirmary, Central Branch, Roby-street, Manchester.—Asst. M.O. £100.
Margate, Royal Sea Bathing Hospital for Surgical Tuberculosis.—Female S. £200.
Middlesex Hospital.—H.S.
Mildmay Mission Hospital, Austin-street, Bethnal Green, E.—P., Gynæc., and Dent. S.
Newark Hospital and Dispensary.—Res. H.S. £200.
Newcastle-upon-Tyne, Hospital for Sick Children.—Hon. Asst. S.
Northampton, County Mental Hospital, Berry Wood.—Sen. Asst. M.O. £300. Also Jun. Asst. M.O. £210.
North Riding of Yorkshire County Council Education Committee.—Two Asst. Sch. M.O.'s. £500 each.
Nottingham General Hospital.—H.S. £200.
Poole, Borough and Port of.—M.O.H., Med. Supt. of Isolation Hospitals, and Sch. M.O. £710.
Prestwick, Biggart Convalescent Home.—Visiting P.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Asst. Res. M.O. £60. Also Dist. Res. M.O. £80.
Queen Mary's Hospital for the East End, Stratford, E.—H.S. and H.P. £150 each.
Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Asst. P.'s.
Rochester, Kent, St. Bartholomew's Hospital.—Res. H.S. £250.
Royal Air Force, Air Ministry, Kingsway, W.C.—M.O.'s.
Royal Eye Hospital, St. George's-circus, Southwark, S.E.—Refractionist. 100 guineas.
Royal Free Hospital, Gray's Inn-road, W.C.—Two Female Asst. M.O.'s. 1 guinea per session.
St. Pancras Dispensary, 39, Oakley square, N.W.—Hon. P.
Salisbury General Infirmary.—H.S. £200.
Sheffield Royal Hospital.—Res. Surg. O. £250. Asst. Cas O. £150.
Sheffield Royal Infirmary.—Asst. Cas. O. £150
South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Sen. H.S. £225.
Stroud General Hospital.—H.S. £200.
Sunderland Children's Hospital.—Female Jun. Res. M.O. £150.
Throat Hospital, Golden-square, W.—Res. H.S. £100.
Tooting Bec Mental Hospital, Tooting, S.W.—Jun. M.O. £515 6s.
Tunbridge Wells General Hospital.—H.S. £160.
Tyne Port Sanitary Authority.—Asst. M.O.H. £750.
Western Ophthalmic Hospital, Marylebone-road, N.W.—Non-Res. H.S. £150.
West London Hospital, Hammersmith-road, W.—H.P. and Two H.S.s. £50. Also Asst. Anæsth.
Wigan County Borough.—M.O.H. £850.
Wigan Infirmary.—Hon. P. and Asst. Hon. P.
Wilts County Council.—Female Asst. County M.O.H. and Asst. Sch. Med. Inspec. £500.
Wolverhampton and Staffordshire General Hospital.—Hon. Specialist Ear, Nose, and Throat Dept. Also Res. Cas. S. £300.
York Dispensary.—Res. M.O. £250.
York Retreat.—Med. Supt. £800–£1000.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for a Certifying Surgeons under the Factory and Workshops Acts at Hammersmith, Allendale, Eccles, Kirkby Lonsdale, Shap, and at Colne.

THE Secretary of State for the Home Department gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of the Lothians and Peebles. Applications should be addressed to the Private Secretary, Scottish Office, Whitehall, S.W.1, and should reach him not later than March 16th.

Births, Marriages, and Deaths.

BIRTHS.

CUNNINGHAM.—On Feb. 16th, at Chesham, Bucks, the wife of F. H. Lester Cunningham, M.C., M.B., B.S. Lond., of a daughter.

HALLETT.—On Feb. 11th, at Eltham-road, Lee, S.E., the wife of Denys B. I. Hallett, M.A., M.B., B Ch. Oxon., of a son.

NIXEY.—On Feb. 20th, at St. John's-hill, S.W., the wife of E. F. W. Nixey, M.B., of a daughter.

SCOTT.—On Feb. 13th, at Sussex-square, Brighton, the wife of Dr. Evelyn D. Scott, of a daughter.

MARRIAGES.

RICHARDS—OLIVIER.—On Dec. 21st, 1920, at St. Martin's-in-the Fields, by the Rev. Dr. Oxford, M.D., William Arthur Richards, M.B., B.S. Lond., to Noel Olivier, M.B., B.S. Lond.

INTER—PENOYRE.—On Feb. 19th, at St. George's, Bloomsbury, Noel Sydney Bailey Vinter, M.B., B.S., to Alice Dorothy, eldest daughter of the Rev. Prebendary Stallard Penoyre, Rector of Stockton, Worcester.

DEATHS.

CULLEN.—At the British Station Hospital, Jhansi, United Provinces, India, on Jan. 16th, 1921, Dr. J. A. W. Cullen, B A., M.B., B.Ch., B.A.O., District Surgeon, Great Indian Peninsula Railway.

GAMLEN.—On Feb. 18th, at Dawlish, from blood poisoning, Captain Robert Long Gamlen, M.D., B.C., D.P.H. (I.M.S., retired), in his 40th year.

TARBET.—On Feb. 15th, at Swansea, Peter Rowly Tarbet, .R.C.S., L.R.C.P.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

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Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Friday, Feb. 25th.

CLINICAL SECTION
SECTION OF MEDICINE } at 8.30 P.M.
SECTION OF SURGERY

Adjourned Discussion:
On "The Medical and Surgical Treatment of Graves' Disease" to be reopened by Mr. Donald Armour, followed by Dr. J. M. H. Campbell, Mr. W. H. C. Romanis, Mr. A. J. Walton, Professor Earle, and others.

Monday, Feb. 28th.

SECTION OF ODONTOLOGY: at 8 P.M.
Paper:
Mr. W. W. James: Some Clinical Cases associated with Dental Infection.
Casual Communication:
Mr. P. Cole: Condition of Two Pedicle Bone Grafts Two Years after Operation (illustrated by X Ray Photographs).

Tuesday, March 1st.

SECTION OF SURGERY: SUBSECTION OF ORTHOPÆDICS: at 5.30 P.M. (Cases at 5 P.M.)
Discussion:
On "Recurrent Dislocations (Shoulder, Patella, &c.) and their Treatment," to be opened by
The President (Mr. Laming Evans): On Recurrent Dislocations of the Shoulder.
Mr. W. Rowley Bristow: On Recurrent Dislocations of the Patella.
Cases: The following will be shown by—
The President: (1) Recurrent Dislocation of Shoulder; (2) Recurrent Dislocation of Patella.
Mr. T. H. Openshaw: Recurrent Dislocation of Shoulder.
Mr. O. L. Addison: Recurrent Dislocation of Patella.
Mr. W. Rowley Bristow: (1) Recurrent Dislocation of Shoulder (Bilateral); (2) Two Cases of Recurrent Dislocation of Patella.
Mr. H. A. T. Fairbank: Recurrent Bilateral Subluxation of Shoulder.

SECTION OF PATHOLOGY: at 8.30 P.M.
LABORATORY MEETING at the Bacteriological Department of Guy's Hospital, S.E.
Demonstrations:
Dr. E. P. Poulton: (1) Modification of Van Slyke's Method of Measuring Oxygen in Blood; (2) Method of obtaining Alveolar Air Samples in Untrained Persons.

Wednesday, March 2nd.

SECTION OF SURGERY: at 5.30 P.M.
Demonstration (illustrated by means of the epidiascope):
Mr. Edred M. Corner: Items of General Surgical Importance (the Fate of Silk, Nerve Regeneration, and Internal Scars) from a Surgical Backwater (Amputations).
At 4.30 P.M.:
Pathological Specimens from the Royal College of Surgeons and the St. Thomas's Hospital Museums, Skiagraphic Plates, Prints, and Illustrations will be on view.

Thursday, March 3rd.

SECTION OF OBSTETRICS AND GYNÆCOLOGY: at 8 P.M.
Specimens:
Dr. Russell Andrews: (1) Two Cases of Sarcoma of the Uterus; (2) Lipomatosis of Stroma of a Uterine Fibromyoma.
Papers:
Dr. Geoffrey Evans: A Study of the Condition of the Arteries in a Uterus Removed 24 Days after Delivery.
Dr. Alec Bourne: Puerperal Salpingo-peritonitis.

Friday, March 4th.

SECTION OF LARYNGOLOGY: at 4 P.M.
Cases will be shown by Sir James Dundas-Grant and others.

SECTION OF ANÆSTHETICS: at 8.30 P.M.
Paper:
Mr. Raymond Apperly: The Importance of the Examination by the Anæsthetist of the Patient previous to Anæsthesia.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Feb. 28th.—8.30 P.M., Discussion on the Chemical Estimation of Gastric Function, introduced by Dr. J. H. Ryffel. Followed by Dr. J. A. Ryle, Dr. T. I. Bennett, Dr. R. L. M. Wallis, Mr. E. C. Dodds, Dr. G. Graham, Dr. C. Bolton, Dr. R. Hutchinson, and Dr. W. H. Willcox.

TUBERCULOSIS SOCIETY OF GREAT BRITAIN AND IRELAND, at Margaret-street Hospital, W.
MONDAY, Feb. 28th.—7.30 P.M., Paper:—Dr. W. Gordon: Rain-bearing Winds and Tuberculosis.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
WEDNESDAY, March 2nd.—8 P.M., Lecture:—Capt. J. M. Hollis: The Re-education of the Disabled.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Feb. 28th.—2 P.M., Mr. Baldwin: Demonstration of Cases (Surgical Wards). Dr. Morton: X Ray Department. Dr. S. Pinchin: Medical Out-patients. 5 P.M., Lecture:—Dr. G. Stewart: General Paralysis of the Insane.

TUESDAY.—2 P.M., Dr. Burnford: Medical Out-patients. Mr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Skin Department. 5 P.M., Lecture:—Mr. T. Gray: Surgical Disorders of the Stomach and Duodenum.
WEDNESDAY.—10 A.M., Mr. MacDonald: Genito-Urinary Department. 2 P.M., Dr. Owen: Medical Out-patients. Mr. Gibb: Eye Department. 5 P.M., Lecture:—Mr. D. Armour: Physical Signs and Diagnosis of Abdominal Tumours.
THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 2 P.M., Mr. B. Harman: Eye Department. Mr. D. Armour: Operations. 5 P.M., Special Lecture:—Sir Archibald Garrod: The Interaction of the Glands of Internal Secretion (open to all medical practitioners).
FRIDAY.—10 A.M., Mr. D. Buxton: Dental Department. Dr. McDougal: Electrical Department. 2.30 P.M., Dr. Pritchard: Visit to Medical Wards. 5 P.M., Lecture:—Mr. Addison: Early Hip Disease.
SATURDAY.—10 A.M., Dr. A. Saunders: Medical Diseases of Children. 12 noon, Mr. Sinclair: Surgical Diseases of the Abdomen. 2 P.M., Dr. Owen: Medical Out-patients.
Daily:—10 A.M. Ward Visits. 2 P.M., In-patient, Out-patient Clinics and Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
MONDAY, Feb. 28th.—10 A.M., Mr. W. E. Tanner: Surgical Out-patients. 2 P.M., Dr. A. J. Whiting: Medical In-patients. 2.30 P.M., Mr. E. Gillespie: Surgical Operations. Mr. J. B. Banister: Gynæcological Out-patients. Dr. J. B. Alexander: Medical Out-patients. 4.30 P.M., Lecture:—Mr. J. B. Banister: Pyelitis in Pregnancy. 6 P.M., Dr. F. L. Provis and Mr. T. H. C. Benians: Venereal Department.
TUESDAY.—9.45 A.M., Lieut.-Col. R. H. Elliot and Mr. N. Fleming: Eye Operations. 2.30 P.M., Mr. H. W. Carson: Surgical Operations. Mr. C. H. Hayton: Diseases of the Throat, Nose, and Ear. Dr. Metcalfe: X Ray Department. 3 P.M., Clinical Demonstration:—Mr. J. Howell Evans: Selected Surgical Cases. 5.30 P.M., Dr. C. E. Sundell: Children In-patients.
WEDNESDAY.—2 P.M., Mr. C. H. Hayton: Throat Operations. 2.30 P.M., Dr. W. J. Oliver: Skin Department. Dr. J. B. Alexander: Medical Out-patients. 3 P.M., Clinical Demonstration:—Dr. W. J. Oliver: Cases of Skin Disease. 5 P.M., Dr. Provis and Mr. Benians: Venereal Department.
THURSDAY.—2.30 P.M., Mr. N. Fleming: Eye Out-patients. Dr. A. J. Whiting: Medical Out-patients. Mr. H. W. Carson: Surgical Out-patients. Mr. J. B. Banister: Gynæcological Operations. Dr. J. Metcalfe: X Ray Department. 3 P.M., Clinical Lecture:—Dr. F. L. Provis: The Modern Treatment of Syphilis.
FRIDAY.—2 P.M., Mr. Howell Evans: Surgical Operations. 2.30 P.M., Dr. C. E. Sundell: Children Out-patients. Mr. E. Gillespie: Surgical Out-patients. 3 P.M., Clinical Demonstration:—Mr. E. Gillespie: Selected Surgical Cases. 5 P.M., Dr. Provis and Mr. Benians: Venereal Department.
SATURDAY.—3 P.M., Mr. H. W. Carson: Surgical In-patients.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C. 1.
MEDICAL SCHOOL.
MONDAY, Feb. 28th.—2 P.M., Out-patient Clinic: Dr. Collier. 3.30 P.M., Lecture:—Dr. Kinnier Wilson: Functional Nervous Disease and its Treatment.
TUESDAY, March 1st.—2 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Lecture:—Mr. Armour: Cervical Ribs, their Symptoms and Treatment.
THURSDAY, March 3rd.—2 P.M., Out-patient Clinic: Dr. Farquhar Buzzard. 3.30 P.M., Lecture:—Dr. Gordon Holmes: Muscular Atrophies. (I.)
FRIDAY, March 4th.—2 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Dr. Tooth: Lecture Room. Demonstration of Cases.
Fee for Post-Graduate Course £7 7s. C. M. HINDS HOWELL, Dean.

MIDDLESEX HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).
MONDAY, Feb. 28th, AND THURSDAY.—3 P.M., Emeritus Lectures:—Dr. W. McC. Wanklyn: The Future of the Medical Profession.
FRIDAY.—3 P.M., Sir Richard Douglas Powell: The Ætiology of Phthisis.

KING'S COLLEGE (DEPARTMENT OF SCIENCE), Strand.
Nine Lectures on Problems of Modern Science.
WEDNESDAY, March 2nd.—5.15 P.M., Lecture (VII.):—Dr. R. R. Gates: Botany.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, March 3rd.—4 P.M., Lecture:—Dr. A. M. H. Gray: Itching in Children. (Cases will be shown.)

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W.
MONDAY, Feb. 28th.—5.30 P.M., Post-Graduate Lecture:—Dr. R. O. Moon: Arterio-Sclerosis.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.
THURSDAY, March 3rd.—6 P.M., Chesterfield Lecture:—Dr. W. Griffith: The Skin Eruptions of Syphilis.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.
TUESDAY, March 1st.—3 P.M., Lecture:—Prof. A. Keith: Darwin's Theory of Man's Origin.
SATURDAY.—3 P.M., Lecture (I.): Sir Ernest Rutherford: Electricity and Matter.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, March 1st.—4.30 P.M., Lecture:—Dr. C. H. Melland: The Significance of the Various Signs and Symptoms of Heart Disease.

SALFORD ROYAL HOSPITAL AND ANCOATS HOSPITAL POST-GRADUATE DEMONSTRATIONS, at the two Hospitals alternately.
THURSDAY, March 3rd.—4.30 P.M., Dr. Gibson: Seborrhœic Dermatitis. (At Salford Royal Hospital.)

ST. MARY'S HOSPITALS, MANCHESTER. POST-GRADUATE LECTURE, at Whitworth-street West Branch.
FRIDAY, March 4th.—4.30 P.M., Dr. Dougal: The Diagnosis and Treatment of Tumours complicating Labour, Pregnancy, and the Puerperium.

MANCHESTER BABIES' HOSPITAL.
Post-Graduate Lectures and Demonstrations in the Onward Buildings, Deansgate, or at the Hospital, Slade-lane.
SATURDAY, March 5th.—3.30 P.M., Dr. Hickling: Rickets. (At the Babies' Hospital.)

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg.-Cmdr. A. F. Harper is placed on Retired List.

ROYAL ARMY MEDICAL CORPS.

Major T. H. Gibbon retains the temporary rank of Lieutenant-Colonel whilst specially employed.
C. B. Dyson (late Captain, Special Reserve) and R. T. G. Aickin (late temporary Captain) to be temporary Captains.
Temp. Capt. S. A. McClintock to be temporary Major whilst specially employed.

TERRITORIAL FORCE.

Lieut.-Cols. J. B. Berry (on account of ill-health) and P. R. Ash relinquish their commissions and retain the rank of Lieutenant-Colonel.
Surg.-Major R. L. Fitz-Gerald, from 5th Battalion, East Lancashire Regiment, to be Major.
Major N. Maclaren to be Lieutenant-Colonel and command 1st Western Casualty Clearing Station.
Capt. D. G. Rice-Oxley to be Lieutenant-Colonel and command 1st London (City of London) Field Ambulance.
Capts. W. Bowater, C. H. S. Redmond, and G. B. Gill to be Majors.
Capt. H. L. Garson (late R.A.M.C., S.R.) to be Captain.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, LTD., London.
A Young Girl's Diary. Prefaced with a letter by Sigmund Freud. Translated by Eden and Cedar Paul. Pp. 272. 12s. 6d.

BAILLIÈRE, TINDALL, AND COX, London.
The Sphygmometer: Its Value in Practical Medicine. By W. Russell, M.D. Pp. 145. 7s. 6d.

BELL, G., AND SONS, London.
The Girl. By Katharine C. Dewar, M.A., Secretary of the Glasgow Council of Juvenile Organisations. Pp. 191. 6s.
First Course in General Science. By F. D. Barber, A.M., and Others. Pp. 608. 9s.
Introduction to Zoology, for Medical Students. By C. H. O'Donoghue, D.Sc. Pp. 501. 16s.
Dual Evolution: Being Outlines in a Theory which is Thought to Reconcile Idealism and Realism from the View-point of Humanism. By J. O'Callaghan. Pp. 259. 12s.

BLACK, A. AND C., LTD., London.
Manual of Medical Jurisprudence and Toxicology. By W. G. Aitchison Robertson, M.D. 4th ed. Pp. 414. 12s. 6d. net.
Manual of Public Health. By W. G. Aitchison Robertson, M.D. 4th ed. Pp. 260. 10s. 6d., net.

CHURCHILL, J. AND A., London.
Introduction to Qualitative Chemical Analysis. By Th. W. Fresenius. 17th ed. of the original work by C. R. Fresenius. Translated by C. A. Mitchell, F.I.C. Pp. 954. 35s.

JOURNAL OF COMPARATIVE LEGISLATION, Elm Court, Temple, London.
Death Certification. By Professor J. G. Glaister, M.D. Pp. 18. 2s.

KIMPTON, HENRY, London.
Psychopathology. By E. J. Kempf, M.D. Pp. 762. 63s.

LIPPINCOTT, J. B., COMPANY, London and Philadelphia.
Standard Method of Testing Juvenile Mentality by the Binet Scale and Porteus Scale of Performance. Tests by N. J. Melville, with Introduction by W. Healy, M.D. 2nd ed. Pp. 162. 12s. 6d.
A Manual of Veterinary Physiology. By Major-General Sir F. Smith, K.C.M.G., C.B. 5th ed. Pp. 892. 31s. 6d.

LIVINGSTONE, E. AND S., Edinburgh.
Anatomy of the Brain and Spinal Cord. By J. R. Whitaker, M.B. Lond. 5th ed. Pp. 262. 12s. 6d.

LONGMANS, GREEN, AND CO., London.
A Dictionary of Applied Chemistry. By Sir E. Thorpe, F.R.S. Revised and enlarged edition. Vol. I. Pp. 752 (A-Calcium). 60s.

MALOINE, A., ET FILS, Paris.
Traité de Pathologie Médicale et de Thérapeutique Appliquée. Publié sous la direction de Emile Sergent, L. Ribadeau-Dumas, et L. Babonneix.
Tuberculose. Vol. I. Pp. 379. Fr.20. Vol. II. Pp. 811. Fr.35.

UNWIN, T. FISHER, LTD., London.
The Islanders of the Pacific: or, The Children of the Sun. By Lieutenant-Colonel T. R. St.-Johnston, late District Commissioner of the Lau Islands, Fiji. Pp. 307. 25s.

URBAN AND SCHWARZENBERG, Berlin and Vienna.
Die specifische Percutanbehandlung der Tuberkulose mit dem Petruschkyschen Tuberkulinliniment. Von Dr. Felix Grobmann. Mit einem Geleitwort von Prof. Dr. J. Petruschky. Pp. 76. M.12.

WATKINS, J. M., London.
The Psychic Structures at the Goligher Circle. By W. J. Crawford, D.Sc. Pp. 151 and plates. 10s. 6d.

Notes, Short Comments, and Answers to Correspondents.

SIR ASTLEY COOPER.

Sir Charters Symonds's Hunterian Oration, which we published last week, recalls the fact that the place of honour in the first issue of THE LANCET, dated Oct. 5th, 1823, was occupied by a report of one of Sir Astley Cooper's surgical lectures given at St. Thomas's Hospital. A paragraph introductory to the report gives some idea of the surgeon's popularity.

> At half-past seven the theatre was crowded in every part by upwards of four hundred students of the most respectable description; in fact, we never before witnessed so genteel a surgical class; the sight was most pleasing, for they all appeared gentlemen of cultivated manners and good education.

Sir Astley Cooper was then at the height of his fame; his wealth, social position, and charm of manner were added to an unrivalled surgical reputation, the latter being the result of a good memory, a vast professional experience, and a singular power of inspiring confidence in patient and student alike. He was an indefatigable dissector, and his connexion with the resurrection men only served to increase his fame in the public eye—a fame, perhaps, unrivalled before or since. His attitude towards the publicity accorded to his work by the printing of his hospital lectures—a procedure then entirely without precedent—seems at first to have wavered between wounded dignity and well-founded professional pride; in the course of his first official reference to the matter he delivered himself to his students as follows:—

> Though I did not regard the publication of my lectures I felt myself disgraced and degraded by my name for ever appearing in the diurnal press. Not a paper could I see but my name flourished in it in some form or other. This looked so much like quackery, so much like puffing, that I am unable to describe to you how much it annoyed me. Although the publication of my lectures exposes me to the critical ordeal of my professional brethren, yet I fear it not; I care not who may be made acquainted with the doctrines I advance, the instructions I give, the principles I inculcate, while in this theatre. Therefore I am perfectly indifferent as to who publishes them, and equally indifferent as to who may be made acquainted with them.

He had previously moved for an injunction to restrain further publication, but arrived at a somewhat ingenuous agreement whereby his lectures continued to appear without mention of his name. This compact was loyally kept on both sides; in the welter of legal proceedings which followed the printing of lectures by some of his colleagues Sir Astley Cooper took no part, although as the struggle for simple publicity developed into an agitation for widespread reform his own name was frequently and not unjustly spoken in connexion with the charges of nepotism levelled against the administrators of the London hospitals.

The great surgeon was a man of wide sympathies. In his youth, and as a result of the influence of Henry Cline, he developed an interest in democratic principles, but abandoned this peculiarity before it interfered with his career. Another of his experimental interests was the care of animals; he bought lame or ill-fed horses cheaply in Smithfield and doctored them at his own farm, often with great success. He had considerable self-knowledge, but did himself injustice when he claimed to have been "a good anatomist, but never ..... a good operator where delicacy was required." He was not a genius; his works are not classics, being defective in references to the writings of others, but they bear witness to his great and abiding love for his profession. His statue by Baily stands near the southern entrance of St. Paul's Cathedral; an excellent portrait of him by Lawrence is in the Royal College of Surgeons of England; and the triennial prize of £300 further commemorates the name of one of the principal figures of British surgery.

COLONIAL HEALTH REPORTS.

Gibraltar.—The estimated civil population in the city and harbour on Dec. 31st, 1919, was 17,773, as compared with 19,586 at the census of 1911. The birth-rate in 1919 was 24·81 per 1000 and the death-rate 19·82. The number of patients admitted to the Colonial Hospital was 1499, and there were 74 deaths. The number of out-patients was 7403. 510 surgical operations were performed, the number of deaths after the operation (13) being unusually small. In the Small-pox Hospital—an isolated building outside the town—22 cases of small-pox and one case of typhus fever were treated during the year. There were four deaths from small-pox. A sum of £2100 was expended from Colonial Government funds on the Tuberculosis Relief and Destitute Sick Poor Scheme, which is administered by the Sanitary Commissioners. The attendance at the Tuberculosis Dispensary was, on the whole, poor, but some 500 visits were paid to patients in their own homes. Six families have been provided with free quarters in the Sanitary Commissioners' Home, and 22 destitute men and 6 destitute women suffering from tuberculosis or other diseases were accommodated and fed. The daily average number of inmates of the Lunatic Asylum was 29·29. The total rainfall in 1919 was 37·7 inches, as compared with 36·73 inches in 1918.

Malta.—The civil population on April 1st, 1920, was estimated at 224,859, an increase of 204 on the previous year. The birth-rate for 1919-20 was 31·69 per 1000 and the death-rate 20·39. These figures compare with an average birth-rate of 31·8 and death-rate of 22·89 per 1000 for the past 10 years. The death-rate among children under 12 months was 220·42 per 1000 births, as against 244·60 in the previous year. The death-rate of children under five years was 84·95 per 1000 of the population at that age, as compared with 107·06 in 1918-19. There were 2038 marriages, as compared with 1642 in the previous 12 months. The death-rate from notifiable infectious diseases fell from 6·28 in 1918-19 to 2·56 in 1919-20, and the general state of health in the Islands may be regarded as satisfactory. Rigorous sanitary measures have succeeded in preventing the introduction of dangerous contagious diseases, such as plague, typhus, &c., and small-pox infection whenever introduced has been effectively checked. Endemic fevers have been prevalent, but mortality has been moderate. There were 110 cases of malaria. In 90 of these the disease was contracted elsewhere. The remaining 20 occurred during September–November in one locality in the vicinity of the Salt Pans at Is-Salini, and there is reason to believe that the infection was of local origin. The symptoms were those of benign tertian fever. Measures to improve the drainage at this place were undertaken, and there was no recurrence of the disease during the year. 3722 persons were successfully vaccinated during the year. The number of patients admitted into the hospitals of Malta and Gozo in 1919-20 was 3882. In addition to these 133,030 persons were attended by the district medical officers at the Government dispensaries or at their own residences. In the Lunatic Asylum there were 776 patients on March 31st, 1920, and the number of deaths in the year ending that date was 40. The inmates of the Leper Hospital on March 31st, 1920, numbered 84. The highest temperature in the shade was 100° F. at Casal Lia on July 13th, 1919, and the lowest 38·0° at Casal Zeitun on Dec. 27th. The mean temperature for the year was 64·8°. The total mean rainfall for the period April, 1919, to March, 1920, was 15·30 inches, or 5·4 inches less than that of 1918-19.

EXCESSIVE MOISTURE IN MARGARINE.

A LARGE firm of margarine importers of London and Manchester were fined £50 and 10 guineas costs at Salford for importing margarine containing an excessive quantity of moisture. The analysis showed that the samples taken by the Customs and Excise authorities contained 16·8 and 16·7 per cent. of moisture respectively, whereas the Sale of Food Act, 1899, as amended by the Butter and Margarine Act, 1907, allows only up to 16 per cent. of moisture in margarine. The margarine was made in Holland in factories over which the defendant firm had no direct control.

POST-WAR INCIDENCE OF TYPHOID FEVER.

A COMMUNICATION made by Dr. A. Chauffard to the *Académie de Médecine* at its session on Jan. 18th last, and quoted this week by our Paris correspondent, gives striking evidence of the efficacy of antityphoid inoculation practised on such a large scale during the war. The figures in this communication were derived from the statistics of the admissions to the Saint-Antoine Hospital. The statistics for the pre-war period 1912–13 are compared with those for the years 1918, 1919, and 1920. In the first period 27·5 per cent. of the males admitted were under 20 years of age, 72·5 per cent. over that age. In the second period 90 per cent. were under the age of 20, and only 10 per cent. were over that age. A convenient control test is supplied by the admissions of females, who were naturally not affected by the war-time inoculations. In this case the rates were 19 and 81 for the first period, 24·5 and 75·5 for the second. The numbers dealt with (in all 21 men and 65 women) are unfortunately too small to make the observations conclusive, but they are sufficiently important to justify further research along the same lines, and should such research confirm these results a strong case will be made out for general prophylactic inoculation of the civil population.

Erratum.—For "tabloids of alucol" on p. 172, col. 1, THE LANCET, Jan. 22nd, 1921, read "*tablets* of alucol."

E. F.—Dr. Addison recently stated in the House of Commons that after full consideration the Government had decided not to ratify the Washington Maternity Convention of December, 1919.